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A Parable of Talents

DEMOCRACY has been defined as a way of life in which each citizen is given the fullest opportunity to put his unique talents at the disposal of the whole people. Education in such a social order is faced with two major tasks: first, that of discovering the talents of each child and helping him to bring them to their fullest fruition; and, second, that of helping each child to grow into active membership in his social world through the best use of his talents. We do not need to go to Holy Writ to find stories of buried talents. In every school where academic standards prevail for all children we can find those who have been "cast into outer darkness," discouraged, hopeless, or rebellious, fast growing into society's burdens or enemies.

The non-academic child, however, is slowly but surely coming into his own. Advancing age for compulsory school attendance and for entrance into employment has forced his problems upon us, and many happy school rooms can now be found throughout the land where the non-bookish child is learning to live as effectively as his more bookish brother.

WHAT are the growth needs of the non-academic pupil? No simple word picture can describe him. Judged by our traditional academic standards he has been called backward or retarded, but the causes of his dilemma are varied and usually multiple. Some are mental and others are physical; some appear to have been inherited and others to be due chiefly to circumstances in his environment. Research indicates that with the majority an outstanding cause is limited general intelligence, though specific abilities and disabilities appear frequently in the picture. Cyril Burt estimates that if we count physical condition as a single factor, even though several physical defects are present, each backward child suffers on the average from at least three adverse factors tending to retard his progress in school. He lists more than sixty distinguishable conditions that have been observed in his studies and considers at least one-third of the backwardness preventable or remediable.[1]

Clearly, it is no simple task to understand our backward or non-academic pupils. Interestingly enough, they have been found to differ more among themselves than do so-called normal children and therefore present teachers with an unusual challenge to understand their limitations, assets, and needs.

One widely current but erroneous concept about non-academic pupils is that they are usually better than ordinary in motor abilities and manual skills. While they tend on the average to approach the normal more closely in this area than in intellectual traits, there would seem to be no justification for major emphasis on training in mechanical skills save for the individuals who manifest exceptional ability along these

1 Cyril Burt, *The Backward Child*, D. Appleton-Century Company, 1937, p. 564.

lines. The common lack of verbal facility in dealing with abstract concepts is, of course, one basis for the use of the term "non-academic" and suggests the need for much concrete experience of a practical sort involving seeing, hearing, manipulation, and activities closely related to all of the immediate demands and interests of daily living.

Visual and motor imagery appear to be used more commonly by this group than auditory imagery, and this fact may tend to render the usual classroom methods of verbal instruction ineffective for many. Pure motor or visual types are usually figments of the imagination, but concrete imagery associated with actual materials and experiences plays an important part in the learning of the non-academic pupil. The principles of effective learning—emphasizing readiness, interest, purpose, and active, well-directed effort—apply equally to bookish and non-bookish activities.

In approaching the study of any backward or retarded group of pupils, we may expect to find greater than normal incidence of physical defects, malnutrition, illness, nervous and emotional instability, poverty, and social maladjustment. These conditions are more likely to be contributory than causal, but we can never safely generalize for individuals from trends. The coöperation of health, guidance, and social workers may be needed to understand and serve the needs of this group.

Each individual is unique, and many of our non-academic pupils are thoroughly normal individuals with a practical turn of mind or a specific disability or handicap. All demand our respect and the opportunity to grow in harmony with their natural patterns of personality. They need to *know* themselves, *accept* themselves, and *be* themselves, if they are to play their parts as respected and contributing members of a democratic society.

WHAT are the present trends in non-academic education? It is as futile to attempt to generalize with respect to programs as it is with the pupils. However, we can probably state safely that we are moving away from the desiccated, inedible menu of minimum essentials with meaningless memoritor learnings and toward a project type of program growing out of the interests and life activities of individuals and looking toward their future adjustments as citizens, workers, and homemakers. It has been suggested that while the academically bright need opportunity for individual work, the academically backward need individual attention. Both need suitable opportunities for socialized activity with small interest groups as well as in unselected groups. Neither should be stigmatized as abnormal or as "problems."

Recent visits to special class programs in widely separated areas in the United States have left vivid memories. One artist-teacher comes to mind whose group of boys, all with very low academic ability, and housed in a basement room, were combining the practical and cultural aspects of life in thrilling experiences. With a background of world travel and craft experience, the teacher was helping these boys to understand the lives and history of peoples whose arts and crafts they learned through first-hand experience. Reeds and raw materials for dyes gathered in explorations in their community environment were being transformed into useful and artistic woven objects. An oriental rug that was taking form under their handiwork gave dramatic evidence of character building both in the creative design symbolizing fine human relationships and the quality of the product that bespoke pride in craftsmanship. Greater than these material objects was the spirit of industry, coöperation, and self-

discipline apparent even to the casual observer.

In another city were found groups of high school boys and girls improving their skill in home living through the solving of such problems as budget-making, wholesome diet, economical and attractive dress, etiquette, and the creating of artistic furniture out of crude raw materials. Others were raising plants to sell or to beautify the school or home environment. Back of these activities, again, one could feel the impetus toward more livable personalities and better citizenship.

Within such programs, from which the illustrations cited are merely incidental samples, there is opportunity for individuals to develop their unique talents in the process of living and learning to live more effectually in their immediate world. Academic skills and knowledge, practical problem solving, and manual and social activities may all be merged in purposeful and interesting work-learning projects. The fact that a majority of non-academic individuals are likely to enter work for which little specific preparation is required seems to point toward much general education for home and community living, personal development, efficiency in work, artistry in play, and honor in citizenship rather than too much specific vocational training.

The work and learning programs in the CCC camps and in the self-help programs of many colleges may give us valuable leads for both general and vocational education. A recent bulletin of the United States Office of Education, describing self-help projects for students, contains the following significant statements:

> . . . the value of real money-earning labor as a part of education is becoming more generally recognized. To work at ordinary tasks has a very wholesome democratizing effect upon many young people. Furthermore, to a great many, intellectual growth takes place quite largely in terms of the things with which one works with his hands. Actual experiences are the basis of learning rather than facts and precepts recorded in books. To this group work experience is a very essential part of education.[2]

Russia may also have something to teach us in the close connection of schools, shop, factory, and farm. Reports would indicate that here there is no sharp line between education and life.

WHAT of the post-school careers of non-academic children? Several follow-up studies indicate that individuals of this group come to fill a needed place in the community and often are not as greatly affected by economic cycles as are some other groups. While the percentage of delinquency appears to be much higher than for the total population, some findings have suggested that earlier placement and longer attendance in special classes may reduce delinquency and unemployment.

Teachers of non-academic pupils may well dedicate themselves to their task in the same spirit that Thomas Edward Shields dedicated his book in their behalf,[3] "To the misunderstood children—who are reached the stone of discouragement instead of the bread of hope and who are branded 'dull and backward' when laid upon the Procrustean bed of closely graded schools."—MARGARET E. BENNETT, *Associate Editor; Director of Guidance, Pasadena.*

Promotion for Douglass

THE appointment of Aubrey A. Douglass as assistant superintendent of public instruction for the State of California will be welcomed by secondary people generally, and it will be

[2] Fred J. Kelly and Ella B. Ratcliffe, "College Projects for Aiding Students," *Bulletin, 1938*, No. 9, U. S. Office of Education, 1938, page 2.

[3] *Making and Unmaking a Dullard*, Catholic Educational Press, Washington, D. C., 1908.

of particular interest to readers of the JOURNAL, for Doctor Douglass, as managing director of the California Society of Secondary Education, has been of invaluable service to the Society and its publications. In addition to his new position, Doctor Douglass will retain his place as chief of the Division of Secondary Education.

For Sale

BECAUSE there has been considerable demand for reprints of the entire symposium on Evaluation which appeared in last month's JOURNAL, a number of these have been run off and are now for sale in the offices of the magazine, Haviland Hall, Berkeley. This 32-page reprint will be of value to all teachers who construct their own tests and are interested in measuring more than factual achievement. The reprint will also be of importance to school research divisions and to any faculty groups interested in the problem of evaluation. Coming as it does from the Stanford Evaluation Workshop of the Progressive Education Association, it reflects the spirit of this Association in the measurement field.

The reprint sells for 35 cents. Quantities of ten or more ordered for delivery to the same address sell for 20 cents.

Next Month

NEXT month's symposium will be devoted to the very important topic of Safety Education. Inasmuch as California law provides that this sort of instruction must be given in the secondary school, and also because here is a phase of the curriculum which cuts across all subject matter lines, the topic is one of universal interest in the State.

It is not the intention of this symposium to add to the numerous theoretical discussions of the need and purposes of safety education which have appeared in recent years. Rather does it attempt to demonstrate what is being done in California schools in this field and to suggest what can be done in those schools which are attempting more than a perfunctory compliance with the state law. The symposium has been organized by Dr. Frank K. Foster, in charge of the State Department of Education's work in this field and associate in education at the University of California at Los Angeles.

Articles in the symposium will describe some of the more outstanding school programs of the State and in addition will cover such topics as "What the Schools Can Do for Confirmed Accident Repeaters," "Teacher Responsibility for Fire Prevention," "Safety Education, a Program of the Whole School," "Safety Education and the California Highway Patrol," and "Mathematics of Safety Education." Among other articles in this issue will be "New Light on Human Intelligence," an out-of-state contribution from George D. Stoddard, director of the Iowa Child Welfare Research Station, University of Iowa, and "Postponing Algebra to the Senior High School," by William B. Brown, director of secondary curriculum, Los Angeles.

English Council to Meet

Because of President Roosevelt's break with tradition on the Thanksgiving holiday, the twenty-ninth annual meeting of the National Council of Teachers of English, originally announced for the week-end of November 30, has been put forward a week to November 23-25. The convention this year will be held in New York City, with the Hotel Pennsylvania as headquarters and the Hotel New Yorker as an auxiliary meeting place.

Aid for the Academically Underprivileged

By J. HAROLD WILLIAMS

AMONG the many problems incident to the spectacular growth of our public school system, perhaps none is more serious and perplexing, from a strictly educational point of view, than that of the increasing range of individual differences with which the school has to deal. On the one hand we have the gifted pupil, whose rapid progress, resourcefulness, and interests are often disproportionate to the school's facilities and the ingenuity of his teachers. At the other end of the scale, there is the pupil whose abilities are not developed beyond the level of the elementary school, but who, because of chronological age, the requirements of compulsory attendance laws, and the liberalization of promotion procedures, has gained legal admission to an institution which is intended to extend, rather than repeat, the work of the lower school. It is the latter group with which this paper deals.

A generation ago this problem was one of minor importance. The schools of that day were so organized that pupils were expected to make reasonably normal progress through a series of uniformly spaced steps, or drop out of school. There was, of course, the alternative of repeating grades. Although it was recognized that some children were not capable of profiting greatly from the offering thus provided, it seemed more appropriate that they should either lag behind or discontinue their schooling than that the school should set up any special procedures to take care of them.

With the extension of the compulsory attendance age, and the growth of popular demand for the retention of children in school even beyond the legal require-

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As Dr. Margaret E. Bennett points out in her editorial for this issue, "The non-academic child .... is slowly but surely coming into his own." Apparently there is a growing interest in providing for those boys and girls who cannot profit from or who are entirely uninterested in the academic subjects. And because there is such interest, this symposium is presented—to show what provisions California schools are making for this lower fourth of their student bodies.

Following an introductory article by J. Harold Williams of the University of California at Los Angeles, the symposium presents considerable variety in size and type of school reporting, and in the nature of provision for the non-academic. In one article, Harrison Heath describes a special curriculum for the non-academic in a junior college. Richard Gahr tells of the special classes which a high school offers for pupils in this category. Ray C. McCormick describes a special curriculum on the high school level. Miss Catherine G. McVey and Walter L. Winston show what a small school can do for these pupils, particularly in the use of instructional aids and in the matter of placement. Dr. Ethel Percy Andrus describes the homogeneous social living groups her school has set up for these students. Harold B. Walker describes a program that is rather unique, in that it is a terminal program on the junior high school level. Representative of the remedial work offered for non-academic students in many schools is the very fine account of a reading course for non-academic students, written by Miss Ada Plumley and Miss Viola Weamer.

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ments, the proportion of retardation increased, and it became apparent that some special provision would become necessary for pupils who became excessively retarded. Hence the special class came into existence. At least one state required the public schools to establish such classes for pupils who were three or more years retarded. In some localities the special classes were grouped together in special schools.

Much discussion ensued over the relative merits of segregation within a regular school and the grouping of all special classes within a single unit. Usually the argument was stopped by the discovery that funds were insufficient to do either. Later, as the problem became more generally recognized, other procedures were adopted. Ability grouping, regrading, remedial instruction, and various sorts of curriculum adaptations were placed on trial, but each plan presented difficulties and called forth objections. Meanwhile, the number and proportion of children needing special attention has constantly increased as new and improved methods of identification have become available.

The fact that such pupils have entered high school without benefit of the skills and attitudes normally acquired in the elementary school, despite the attainment of high school age and physical development, makes their maladjustment a serious problem, not only to the school, but to the pupils themselves. Having been moved from the lower grades because they were too old, they find themselves in an educational environment for which they are developmentally too young. Because of their limitations, and because the school is mainly and necessarily concerned with other problems, they constitute in most communities an underprivileged group.

THE causes of slow learning are so complex that it is difficult, in the case of an individual pupil, to identify them and determine their relative influence. Physical conditions, including general health, sensory impairment, and endocrine disorders, have been found to bear definite relationship to education maladjustment. Needless to say, a school organized with a view to the well-being of its pupils will coöperate in the correction of physical defects and in the promotion of good health.

It has become a common practice for teachers at each of the school levels to attribute the weaknesses of their pupils to inadequate preparation at earlier levels. Such charges become especially acute during periods of curriculum reconstruction and modification of teaching procedures—and not always without justification. But as long as the blame can be passed to a lower grade, and the pupil passed to a higher grade, the re-

This article sets the stage for the present symposium. In doing so it gives a brief survey of what is being done and what can be done to provide for the non-academic pupils in our secondary schools.

Dr. Williams is professor of education and dean of the summer session at the Los Angeles campus of the University of California. His previous educational experience includes positions as teacher, principal, clinical psychologist, research director, and member of school survey staffs. He was associated with Professor Lewis M. Terman in the construction of the Stanford-Binet tests and has published books on juvenile delinquency, statistics, and graphic methods. He has founded and edited two periodicals: the "Journal of Delinquency" and the "Educational Measurement Review." He has served also as president of the California Educational Research and Guidance Association and as national president of Phi Delta Kappa, educational honorary fraternity.

sponsibility may be evaded by all and the real circumstances of the case lost in obscurity. Closer coöperation between the various school levels, with emphasis upon the needs of the pupil, might eventually result in the sharing, rather than the disclaiming, of responsibility.

The social background, and especially the immediate home conditions, are also generally regarded as factors contributing to school retardation. Recent investigations have revealed significant differences between children reared in homes of differing social status and parental competence. Both early habit formation and later attitude development are influenced by home and neighborhood patterns. The school's contribution to the improvement of the home environment must necessarily be limited and indirect. If the generally accepted social aims of education are effectively incorporated in the curriculum, and made sufficiently vital, there is reason to expect that better homes and communities will result. It is of no benefit, however, merely to blame the social background for educational maladjustment without making some attempt to compensate for whatever damage it may have done, and, too, it must be admitted that the school environment itself may be a strong factor in the development of attitudes and personal qualities often thought to be the products of the home.

Most significant among the factors associated with slow learning is retarded mental development. Regardless of the direction in which this causal relationship operates, the pupil of low mental ability, as indicated by a low I.Q., is almost certain to make slow, irregular progress. From the available evidence it appears that the I.Q. level of the scholastically retarded elementary school pupil will not appreciably increase during the high school years, even if better adjustments are brought about. The problem, then, is not how we may increase the rate of mental development, but how we may assist the child in making the best possible use of the mental ability he is known to possess.

THE first step in providing for these pupils is the obtaining of reliable evidence concerning their mental development. Such evidence is best obtained from mental ability tests, correctly administered, accurately scored, and sanely interpreted. The testing program should be systematically organized, and the results recorded in a detailed and uniform manner. Preferably, the testing should include all pupils in the school. This not only prevents the association of testing with maladjustment, but it makes possible the judging of abilities of individual pupils in the light of the range of abilities in the school as a whole. There should be at least two, and preferably three, tests of each pupil during the secondary school period. A recommended plan includes testing in the eighth, tenth, and twelfth grades.

Teachers and counselors making use of mental test results should become adequately informed concerning the significance of such measures. Sins of omission and commission are all too frequent because of unfounded assumptions. Inasmuch as it has been established that a properly administered test is considerably better than a guess, its value should not be destroyed by indiscriminate guessing in connection with its interpretation. In the case of a retarded pupil, the whole recorded test history should be considered. Attention should be paid to the type of test given, the conditions under which it was given, the probable competence of the examiner, and the extent to which the various findings are in agreement. It is not a good policy for any school to rely wholly upon the test results of other schools. Errors in recording and transmission of such data are numerous. There should

be at least one test under the control of the school immediately concerned.

The use of additional tests of achievement, personality, and social adjustment will be helpful. In attempting to understand a maladjusted child it is desirable to have a variety of facts from different sources. However, it does not follow that the validity of the diagnosis will be exactly in proportion to the number of tests given. The use of extensive batteries of tests, including some not yet emerged from the experimental stage of development, may result in an impressive array of inapplicable data. It is better to obtain a modest assortment of findings known to be related to the type of maladjustment under consideration. The ability of a pupil to adjust to the academic environment of a good school is probably indicated better by his performance in mental ability tests than in any other way.

IN providing a suitable educational environment for mentally retarded pupils the high school faces a problem of grave responsibility. As in the case of the elementary school, the choice is between the segregation of these pupils in special classes and sufficient diversification of the curriculum that they may profitably attend regular classes. Each of these procedures presents certain advantages, but also difficulties of organization and administration.

Where special classes can be organized, the slow-moving pupil may be offered instruction and activities within the range of his abilities and interests and in an environment created especially for this purpose. Thus instead of being an underprivileged pupil, he becomes a member of a privileged group. Classes of this sort can be made so attractive, and so productive of practical results, that their advantages will be obvious. Special book collections, special laboratories, and special equipment which is not otherwise available will contribute to the mental and emotional security of pupils who find that the school thus offers them a kind of coöperation not usually obtained. The teachers of these classes, of course, must be selected for their interest in the problem, their wholesome attitude toward it, and their willingness to become specialists in this field.

The objection that the special class is undemocratic, in that it deprives pupils of equal participation in the activities of the school, is not in harmony with the aim of educating each child according to his needs. However, the alternative plan, sometimes more acceptable, of so enriching and diversifying the curriculum that pupils of all degrees of ability may be grouped within a single class, offers challenging possibilities. Unfortunately, this plan also offers almost insurmountable difficulties. The greater the range of abilities within any class, the less likelihood that sufficient attention can be directed to any given level. Moreover, the responsibility thus placed upon the teacher is so great as to approach unreasonableness. The outcome of such efforts is often a retrogression to obsolete and ineffective teaching procedures.

Another plan is the sectioning of classes according to ability. There has been much discussion of ability grouping, and some experimentation, but opinions differ as to its desirability and its results. Apart from the practical difficulty of making a schedule which will enable pupils to attend the right classes at the right times (sufficiently difficult even without ability grouping) there is the added problem of deciding on what basis the grouping is to be made. In actual practice, ability grouping is too often limited to the mere splitting of classes into vaguely defined groups within a single curriculum, rather than providing differentiated curricula.

It is almost universally recognized

that schools should be so organized that each pupil may be provided with educational opportunities commensurate with his abilities and interests. Worthy efforts have been made to accomplish this result, some of which have been described in previous issues of this journal. But it appears that the attack on the problem has been, to date, far too conservative. The diversity of learning opportunity in the average high school probably corresponds to about one-half the range of ability represented in the school enrollment. We are still catering, with some success, to the middle half. The remaining quarters are rarely reached in a manner befitting their needs.

IN extending the services of the school to a wider diversity of interests and abilities a suggestion may be obtained from certain features in the organization of higher education. Here we have a group of colleges, schools, institutes, and other divisions, each having a curriculum designed for a special purpose, with its own faculty, admission requirements, and regulations. A distinct type of degree, credential, or certificate is granted upon the completion of any given course of study. The significant feature in such an organization, which might be useful to the secondary school in meeting the problem under discussion, is that each curriculum is really different from the others; and yet there is ample provision for mapping out an individual course based upon a combination of fields of study. A student need not confine himself throughout his school career to a course once undertaken, but in order to graduate he must complete an approved sequence of courses which will meet the requirements of one of the divisions of the institution.

It is not suggested that the secondary school thus undertake specialization in the academic sense. The separate divisions, indeed, should not be formed in imitation of the academic divisions of the university, as is the case in the major fields of study offered by some high schools at present. The important similarity proposed is in the definite organization of really separate lines of educational activity. Some of these lines would lead directly to college admission; but most of them, probably, would have other objectives. At any rate there would be a greater diversity of offering, a more liberal choice of objectives, a greater flexibility of administration, and increased opportunity to provide for individual differences.

In the meantime, hetereogeneity in the secondary school population is here to stay. We are likely to become increasingly aware of its effect upon the work of the school, whatever plan of organization may be in operation. The slow-learning child, underprivileged through no fault of his own, a potential citizen and voter, is entitled to as much consideration as are his more fortunate classmates. He needs more than a minimum share of guidance, and, in some cases, he will require some sort of special training that the regular school cannot easily give. We can, of course, undertake to do such work, but for many reasons it seems that the solution will lie in the direction of a more comprehensive plan of meeting individual differences throughout the school, rather than setting off a certain group for special attention.

Teacher Training Courses in Driver Education

At least forty-one colleges last summer conducted special teacher training courses for high school teachers of safety classes.

A "Special" Curriculum in a Junior College

By HARRISON F. HEATH

For those entering freshmen whose high school transcripts show four or fewer recommending units from Grades 10, 11 and 12, and whose scores on a college-entrance academic aptitude test fall below the thirty-fifth percentile—a group of the lowest 15 per cent, and one which is comprised of what might appropriately be termed, for the junior college, non-academic students—the San Jose State College and the San Jose District Junior College offer a special curriculum. Thus the College—the two institutions, of course, function as a single school — offers a three-track program: this "special" curriculum, the technical curriculum, and the academic curriculum.

Mr. Heath, who so well describes the San Jose set-up in this article, is associate professor of mathematics and psychology, and a member of the Personnel Office staff in the State College. Since their inception in 1928, he has been coördinator of the technical courses, and now his authority has been extended to include the special curriculum described in this article.

IT is fast becoming the American way, especially here in California, to provide every high school graduate who desires it the opportunity to go to college. If we are to do this, a great diversification of curricular offerings is essential—and also a willingness to adapt the work to the level of aptitude of our students, no matter what that level may be.

At San Jose State College, which institution includes the San Jose District Junior College, junior college work began in 1921 and, in keeping with the trend of the times, devoted its energies almost exclusively to academically inclined students who wanted to take the first two years of university work here because it was closer home and could be had at less expense. About half of our junior college students still take this training.

But in 1928, as a part of the program of the newly appointed president, T. W. MacQuarrie, there was begun the task of organizing semi-professional curricula to meet the needs of students who are not academically inclined and of those who through financial necessity or through choice are hoping to enter a vocation after one or two years in college. From a very modest beginning, these semi-professional courses, known as technical courses at San Jose, have developed until they now serve the needs of about 600 students, roughly 40 per cent of the junior college.

These two-year technical courses, twenty-seven in number, include five in art, four in commerce, three in home economics, three in industrial art, three in music, two in playground leadership, one for library clerks, one in aeronautics, one in photography, one in radio engineering, one in speech-drama, one in police work, and one in journalism. The secretarial course has always been the most popular, although this autumn the aeronautics course is a close second, due probably to publicity given the college as a result of being selected as one of the thirteen colleges for the Civilian Aeronautics Authority trial courses last spring. The police course, when organ-

ized in 1930, was the first junior college pre-service training for peace officers anywhere in the world. It has received favorable rating by national and international authorities in this field.

In many junior colleges credits earned in these semi-professional courses are not transferable to A. B. degree objectives. This is not the case at San Jose; hence technical students are not segregated into classes apart from the academic students. They must, therefore, compete with the academic A. B.-headed people, but principally in subject fields of their own special interest.

As a result it has become apparent over a period of years that certain entering students, notably those entered on one-quarter's trial because of a poor scholastic record from high school, are not able to compete successfully with either academic or technical students. Of 148 one-quarter trial entrants in the autumn of 1937-38, 69, or 47 per cent, were disqualified by the end of one college year. By this time 16 others had dropped out, 23 were hanging on grimly in various stages of probation, while only 40 had attained the security of clear scholastic standing.

The problem, then, was to remove these students from the competition which was disqualifying nearly half of them and to give them a new and different curriculum where they could meet with success and one which would appeal to them as worth-while.

THE plan for this third type of curriculum for junior college students was set up during the spring months of 1938, to go into operation at the opening of the autumn quarter of the 1938-39 college year. It was decided to make this curriculum compulsory for all entering freshman students whose high school transcripts showed four or fewer recommending units from grades ten, eleven, and twelve and whose scores on a college-entrance academic aptitude test fell below the thirty-fifth percentile. Of 1,086 entering freshmen that year, 155 fell in this category, a group comprising roughly the lowest 15 per cent.

The curriculum was to be definitely terminal, as no credits earned in it were to be transferable to any other objective in the college. The use of the word "terminal," however, proved distasteful to students and faculty alike, and the more innocuous term "special" has been adopted instead. As a motivating device, and in recognition of the fact that some of these low-ability students do "come to life" in response to the challenge of college and do hit a successful academic stride, it was decided that at the end of each quarter a small proportion, upon faculty recommendation, would be selected for transfer to other objectives. Approximately 20 per cent of the autumn specials, 18 per cent of the winter group, and 15 per cent of the spring group were so transferred.

The basic courses to comprise the major portion of this curriculum were planned to be practical, skill-acquiring, and activity courses, with laboratory methods used wherever suitable and with all the work of the course contained within the time limits of the single or double daily periods. But instructors and students all come to feel that there should be some outside study; accordingly the plan has been modified so that now a 5-unit course has a daily double period, and the student does three or four hours of study per week outside; a 3-unit course has a daily single period, plus four or five hours per week outside; a 2-unit course has three single periods of class work and three hours on the outside.

Instructors were charged with the task of gearing the content of the courses at the level of the needs, interests, and abilities of these students. They were encouraged to depart from

standard college content and methods just as radically as they wished and to be just as original and inventive as possible. Heads of departments were careful to assign to this task instructors who would be sympathetic to the experiment, and really willing to work at lt.

IF a student in this curriculum wishes, he may work out a satisfactory major in one of five different fields. In general business training there is a maximum offering of forty-eight units, including typing, bookkeeping, shorthand, consumer education, retail selling, business English, and business machines. In art skills and applications there are sixty-two units of available work, including color and design, lettering, drawing and composition, life drawing, crafts, ceramics, sculpture, and business art. In home making, courses in foods and table service, clothing, home problems, nutrition, and family relationships make up a total of twenty-five units. In industrial arts, a thirty-unit total includes woodwork, mechanical drawing, electricity, metal craft, and auto machanics. In applied music, the maximum is thirty-five units, including voice, piano, violin, reed instruments, brass instruments, percussion, harp, string bass, organ, piano tuning, glee club, a cappella choir, band, and orchestra.

In addition there are certain general value courses either required or strongly urged for all students. These include a year course in English fundamentals and composition, two quarters of speech fundamentals, a year course in general consumer science, a year course in "Man and Society," a personal hygiene course, the psychology of everyday life, personality enrichment, family relationship, American ideals, and logical thinking.

To permit the student to get some further broadening acquaintance with the various fields of human culture, students are permitted to enroll in many of the regular lecture courses of the college on a lecture-attendance basis. On this basis credit is earned by regularity of attendance, proper attitude in class, and an evident desire to get something out of listening to the lectures.

In these special courses the emphasis upon the final grade has been lessened. A grade of "P" for ordinary satisfactory or passing work is the usual grade. Students who do exceptionally fine work in any course receive a grade of "R," and any student who makes "R" grades on at least two-thirds of his program in any quarter is given serious consideration for transfer to some other objective. Students doing failing work receive the "F" grade, and any student receiving "F" grades on more than one-third of his program in any quarter is subject to disqualification.

THE students assigned to this special classification show some striking signs of homogeneity. The criteria which select them indicate that they are uniformly low in scholastic achievement and in academic intelligence. As a group they tend to overestimate their own abilities and insist that their high school records are not true pictures, because they had too good a time in high school. But now that they are in college all that is to be different. A considerable number of them, if unrestricted, would attempt to become teachers, lawyers, and doctors.

There are other signs of emotional immaturity. They do not manage their time well, and they have limited ability in independent concentration upon work; they need much supervision. They tend to be restless physically and in groups of any considerable size easily become inattentive and noisy. Not many of them are taken into the sororities and fraternities. They are below average in mechanical aptitude; of seventy-eight of them tested by the MacQuarrie test,

sixty-four, or 82 per cent, had scores below the median as reported in the test manual.

Some of the chronic objectors continue to be vigorously vocal because this enforced special curriculum is wasting their time and interfering with their plans for becoming great men and women. But on the other hand many of these students come to see this curriculum in its true light. They find that here are interesting courses which they can handle with success, this enabling them to stay in college and giving them grounds for a certain amount of self-confidence and self-respect.

TO get a picture of the results of the first year of operation of this special curriculum we compared 148 special students entering in September, 1938, with 148 students entering in September, 1937, who would have been specials had the system been in operation at the time. The comparison is shown in the following table:

	1937 One-quarter Trial	*1938 Specials*
Entered at beginning of autumn quarter	148	148
Disqualified at end of first quarter	60	22
Disqualified at end of second quarter	5	10
Disqualified at end of third quarter	4	3
Total disqualified for the year	69	35
Dropped out during the year	16	35
In various stages of probation at end of year	23	12
Still "special" at end of year	....	43
In clear scholastic standing in some technical or academic objective at end of year	40	23

Thus it is seen that in pursuit of the first major objective, the reduction of disqualifications, real progress has been made; disqualifications were reduced 50 per cent. In holding power the special curriculum retained in college 78 students, or 53 per cent of the original 148, as compared with 63 retained the previous year, or 43 per cent of the original 148. Also, under the special system 66 students attained a position of comparative scholastic security as compared with 40 the year previous.

It is true that 35 of the specials dropped out during the year, as compared with 16 the year before. The special curriculum needs to be made more attractive, and it needs time to build up a good reputation. But even as the record stands, it is probable that fewer mental hygiene problems are involved where students see the light and drop out voluntarily than in the cases where they are forced out by disqualification.

On the whole this curriculum attempt seems worth-while. It needs to be improved, to have the benefit of much originality and inventiveness on the part of instructors. Current instructional materials and methods probably should be greatly modified. More work should be done in class or laboratory, and less left to the student on the outside. There should be more practical laboratory work and exercises and fewer lectures. There should be more general personality development and less concentration on the intellect.

These students are potential American citizens, and it is up to the American college to help them make that citizenship as fine as possible.

Californian Wins National Award

Miss Barbara Van Kirk, supervisor of consumer education, California State Department of Education, was one of the winners in the 1938-39 Pi Lambda Theta Awards. Her research study, entitled "A Bibliographical Source Book in Consumer Education," was one of four which received awards of $250 each from the Ella Victoria Dobbs Fellowship Fund of Pi Lambda Theta, national association for women in education.

Offering Special Classes for The Non-Academic

By RICHARD GAHR

The Excelsior Union High School, Norwalk, attempts to meet the needs of its non-academic students by organizing for them a large number of special classes. Ralph F. Burnight, principal, says there is nothing spectacular about this program, but, spectacular or not, it will no doubt seem to the reader a very satisfactory adaptation to needs of the large number of students at Excelsior who are either unable to do academic work or who have no need or desire for it.

Mr. Gahr, who writes the article, is chairman of his school's English Department and a member of the Curriculum and the Philosophy Committees.

SOME high schools find the problem of providing for students not suited to academic courses more pressing than others. At Excelsior only 20 per cent of our graduates continue their formal education, and therefore the necessity of providing terminal courses with definite ends in view and with positive carry-over value becomes vital.

The traditional non-academic courses in the commercial, shop, and home economics departments, as well as agriculture under the Smith-Hughes Act, are still given; but in some instances the content has been so modified in the last few years that these courses are scarcely recognizable. In addition to these, new classes are offered which, according to the students' own judgment, are of definite value.

All our entering freshmen are given the Progressive Achievement Battery of tests, which measure the students' reading comprehension, their reading vocabulary, their use of language, their mathematical reasoning, and their grasp of mathematical fundamentals. On the basis of the results of these tests, students in both the mathematics and the English departments are segregated; those whose grade placement falls below the fifth grade are placed in special remedial classes.

IN the mathematics remedial groups, the training in reasoning and the grasp of fundamentals is approached indirectly through practical problems in such true-to-life situations as adding grocery lists, purchasing supplies on a stipulated budget, drawing house plans, laying out a flower bed, and computing light and gas bills from meter readings and rates. These problems bring out the necessity for drill in action, subtraction, multiplication, and division, experience in the making and reading of graphs, and the learning of linear tables. Drill books are provided, and the classes are small enough for the teacher to work with the students individually. One teacher approaches the teaching of fractions by having students take recipes from magazines and determine the amounts necessary in reducing the number of servings from the usual six or eight to two or three.

If the students manifest an interest, and if time permits, the class investigates the realm of descriptive astronomy and becomes acquainted with solar distances, speed of light, and other phases of the subject within their grasp. This gives an opportunity to counteract

the influence of the funny papers—Buck Rogers and Flash Gordon—from which it is found that the pupils have derived many false conceptions of the universe. A unit on health stresses the reading and understanding of statistics and tables. An explanation of what it costs some class member's parent to finance a car on the time-payment plan provides occasion for studying interest rates and the general subject of installment buying.

In the remedial English classes, the emphasis is placed upon increasing the student's reading rate and word comprehension. Beginning with the alphabet and alphabetizing, the work progresses through dictionary drill, syllabication, phonetic sounding out of words, and vocabulary drill to oral reading, where stress is first placed upon ability to note, read, and interpret signs and directions. After the fundamental techniques of reading have been covered, reading for pleasure is emphasized; and the students are given good stories to read which have been rewritten with a vocabulary within their comprehension. The students are tested at six-week intervals; as they improve sufficiently, they are transferred to English classes where regular work is being carried on.

For students who like to read but who do not care for the more classic reading of the academic courses, a class in Adventures in Reading, stressing reading for pleasure, makes a definite appeal. With the student's present reading tastes as a point of departure, the teacher attempts to lead each pupil into an appreciation of the best contemporary books, magazines, and authors. Since this is primarily a reading course, no detailed analyzation of materials read is made, and only a limited amount of written work is required.

Because it is estimated that from 15 to 20 per cent of Excelsior graduates enter some kind of retail selling, the commercial department is this year offering a class in Merchandising. After an awareness of the importance and dignity of the position of salesperson has been inculcating in the student's consciousness, a great deal of stress is placed on the development of a pleasing personality. The course also includes instruction in the techniques of selling, the figuring of prices, and a study of the store and its problems. Practical instruction is afforded by coöperation of the local merchants, who have agreed to give the members of the class part-time employment after school and on Saturdays.

FOR senior girls who are interested in domestic service or in proficient management of their own homes, the home economics department offers a course in Household Management. With one year of cooking as a prerequisite, students take up specific phases of home management such as budgeting, buying, planning meals and menus, serving, nursing, sewing, making beds, laundering, and dyeing. The work is given a practical application when the girls go to the nurse's office to learn how to care for the sick and make beds. Each girl also serves a luncheon to four members of the faculty. She operates within a prescribed budget and must plan her meal, do her own marketing, cook the meal herself, and serve it.

Another and broader phase of the same subject is a course in Family Relationships, in which the students consider the psychological approach to the various problems which come up in a home. A bird's-eye view of the course reveals a study of human relationships, scientific home management, the management of family finances, mental hygiene, eugenics, health in the home, the care of children, and the making of a beautiful home—a home, not just a house.

IN the field of science, two courses are offered for the non-academic student. For the girls there is Household Science; for the boys, Vocational Science. These courses satisfy graduation requirements and approach chemistry, physics, and biology as applied rather than theoretical subjects.

In Household Science, the household becomes a chemistry and physics laboratory, in which students perform experiments with water and its solutions, with metals and rusts, with acids, salts, sugar, and starch, with cotton, linen, wool, and silk, with oils, fats, and soaps, and with proteins and vitamins. After becoming acquainted with household machines, heating systems, refrigeration, electrical devices and appliances, and lighting and sound, each girl plans a home for herself on the basis of what she has learned in the course. The indirect approach to science is used throughout. For example, when the girls are ready to study electricity, they start with the appliances themselves and work back to the theory which governs their operation.

In Vocational Science, the field of science is covered more fully than is possible in any one of the college-preparatory courses, again in a practical rather than in a theoretical manner. The ability to attain skill in the manipulation of apparatus and the ability to follow directions and carry an experiment through to a successful conclusion are considered of primary importance. The students study the general principles of mechanics, heat-measurement, motors, generators, electric lights, power transmission, and lighting.

Because of a wide-spread interest in photography throughout the school, a special course in elementary photography is being offered this year. Since many students are seriously interested in this subject as a hobby or as a profession, the course has its scientific aspects as well as its artistic side. A study of cameras, the taking of good pictures, the principles of printing and enlarging, the making of apparatus, the preparing of solutions, and the art and composition of good pictures prepare the student to carry on these photographic activities for himself in the laboratory or in his own workshop at home.

In addition to the regular shop courses offered, a class for low-ability boys is now in progress. The work is organized around the individual interests of the boys; where there are no manifest interests, the boys make doormats from old automobile casings and build simple benches, tables, stools, and other woodwork projects, requiring no complicated joints. Novelty work of all kinds, scroll saw work, wood turning, and the weaving of wicker furniture are additional opportunities for the boys in this class.

One of the major problems at Excelsior is that of providing for the Mexican students. All ninth grade Mexicans are placed in a two-period course of Spanish and English for the purpose of better orienting them and giving them a feeling of belonging to the school. In the hands of a sympathetic teacher who understands both Spanish and English, the course is designed to help the student learn to read, write, and speak better Spanish and English as well as to make of him—through an appreciation of and pride in the culture of his own people and the American nation—a higher type of citizen. Greater interest in the school and a desire to continue to attend have been built up among the Mexican students as a result of this course.

In the agriculture classes, shop classes, and home economics classes, special attention is being given to the Mexican students, and an effort is being made to offer work that will be of practical value to them in their home life.

A Special Curriculum for The Non-Academic

By R. C. McCORMICK

Castlemont High School, Oakland, has gone at the problem of providing for the non-academic by the creation of a special curriculum for this group. Inasmuch as there are approximately twenty-five pupils of each entering class in the school who are unable to participate in normal class work, it is quite practical to group them in special core classes.

Mr. McCormick, who describes Castlemont's plan, is a teacher and counselor in that school. As one of the "chairmen of classifications," he is concerned with coördinating the work of the various departments in the school.

SECONDARY school people of Oakland have long felt the need of special curricula for non-academic pupils. Our own situation at Castlemont High School provides a good example of this need and the steps that are being taken to meet it.

Although there are many types of non-academic pupils, this particular article will be concerned only with the relatively small group which cannot profitably participate in normal class work. About one out of every twelve pupils who enter our senior high schools falls in this category. Some of these have already been classified as atypicals in junior high school, and most of them have I.Q.'s of below 75. At Castlemont, where the average I.Q. of the student body is just under 100, about twenty-five pupils or one-twelfth of each entering low tenth class, are for various reasons unable to benefit from even a simplified version of traditional subject matter. We have felt it necessary, therefore, to evolve a special program for this group.

WE feel that departmentalization is the logical division of subject matter for the high school, but we attempt to provide a functional organization. Conventional subject matter fields are cut through by core courses, and chairmen of classification coördinate the activities of the various departments. In the special curriculum for the non-academic, as will be shown below, all required courses are definitely adapted to the needs of this group despite whatever academic title may be retained for the course.

Our policy at Castlemont is to segregate the pupils into homogeneous groups in the core subjects, which are usually also the required subjects, and to have no classification in skill subjects. We feel that under this plan not only can the instruction in all classes be improved but also that the needs of the non-academic pupils can best be met.

As a result of this policy the non-academic pupil can be given work on his own particular level with a chance of success in the classes he is required to take, and at the same time he receives the socializing benefits of association with the student body and an opportunity to develop his talents in the elective field. With the absence of the non-academic group from the regular classes, standards do not have to be lowered and better instruction for all of the pupils is the result.

The general policy is to make the pu-

pils of the non-academic groups as unconscious of their handicaps as possible through a special organization which also allows them to participate in normal school life. Their classrooms are within the main building, their subjects bear the traditional names, and they have the same counselor as others.

A special organization has been developed to furnish additional guidance and to give unity to the activity of each of these pupils. The chairman of classification of adjusted classes heads a committee composed of the teachers of these groups and their counselors. This committee makes a case study of the individual and coördinates the pupil's activity in his various classes. On each grade level the child is with the same teacher for two hours during the day. This teacher is responsible for knowing the pupil, indirectly following the pupil's work in all of his classes, visiting his home when necessary, recommending his next semester's program, and giving all of the special guidance for which his regular counselor does not have the time. Experts from the school system's central guidance office may be called in for cases needing expert attention. Throughout the school day the pupil is receiving special guidance, most of which is unbeknown to him as well as to the general student body.

THE required courses for these non-academic pupils purposely are given the misleading names of the traditional subjects, but the activities are far removed from the former subject matter.

In the tenth year the class is together with the same teacher for two hours daily in English and world history and goes as a group to science. The emphasis of this year is on "Living in School, Home, and Community." In physical education and in their two elective subjects these pupils mingle with the general student body. The required two-year course on the eleventh level is English and United States government, while on the twelfth-year level it is personal planning. For the eleventh grade the theme is "Living in America," and for the twelfth, "Living After Graduation." The classroom material objectives, and teaching procedures are somewhat the same for all of the core subjects, but the emphasis varies on each grade level.

Whenever possible these pupils are given books to help them feel they are doing as others, although it is very difficult to obtain books scaled to their interest and emotional maturity. Drawing materials and paints are always on hand, as many activities result in diagrams or paintings rather than in written form. Each room has a case of sixty illustrated books from the city library on a monthly exchange basis. Back issues of many popular magazines are on hand for leafing through and for cutting out pictures for projects. Each student is given a day-old newspaper daily. Visual materials are used to a great extent. The Visual Center of the school system has a library of over 20,000 items ranging from insect collections to sound machines and films. Student collections and field trips furnish much material. Portable public address systems, radios, and phonographs are available for classroom use.

Objectives of teachers in all these non-academic core subjects may be summarized as follows:

1. To completely forget school subjects as such and attempt to reach the pupil on his present level in order to give him an opportunity to improve his fundamental processes through activities.

2. To give the pupil that which he needs most—emotional stability, understanding, a feeling of usefulness, and an opportunity to meet common social experiences with as normal a reaction as possible.

3. To help the pupil develop habits and attitudes which will not only tend to make his own life more worth-while, but which at the same time will make him a useful member of society rather than a social charge.

4. To observe and help the pupil improve his physical development and health.

In the special groupings pupils are graded on their effort, attitude, and work habits. The traditional grades are used, but an indication is made on the term record card that they were received in an adjusted class. The pupil has to compete with others in his elective work and is marked for achievement by the same scale or standards as all.

ALTHOUGH these pupils very seldom have an outstanding ability, many of them can compete with regular students in elective courses and receive passing or average grades. They seem to have more chance of success in shop, household, science, music, and art classes. They are free to elect any subject and can often pass the first or second semester's work, but very few can succeed in the advanced classes. They can often master the mechanical processes but have to drop out when any thinking or planning is required. Typing is a good illustration of this point. Many receive average grades in the first semester, but to date only one has been able to succeed in Typing 3. By their senior year most of these students have found some elective work where they can continue with a small degree of success.

As felt needs for special classes arise, new elective courses for these groups are organized; some of these courses are described in the following paragraphs:

Although functional arithmetic is included in their core subjects, many of these pupils ask for more arithmetic, and frequently their parents request it for them. These pupils are grouped into one class of business mathematics and are given everyday arithmetic.

Since many of the non-academic boys lack bodily coördination, they would be in constant danger in one of the regular shops with its power machinery. A handicraft shop therefore has been organized and is offered as an elective for both boys and girls. Without the aid of power machinery, many projects in carving, weaving, leather work, molding, and jewelry design are possible.

As some of these people will earn their living by farm work and all will have leisure time around the home, a practical course in plant and animal care and propagation has been organized. This class is limited to H-12's and meets for two hours each day. Each pupil is to carry on a home project, and much learning centers around class visitations to the individual projects. This class emphasizes the practical side of biology and botany, and it has proved extremely valuable to the non-academic whose interests are in this direction.

THAT this type of curriculum is well worth evolving is the feeling of the teachers concerned. But from the very nature of the offering one readily sees that the usual methods of evaluating its effectiveness are pointless. Standard tests have little or no value, as these pupils have nearly reached their saturation point in academic achievement long before entering high school. Changes in social behavior and personal appearance can be observed, however, and that they are observed in the pupils of this group is the best indication of what we are doing.

A follow-up has been made of the graduates. Many of the girls marry soon after graduation. The boys find routine jobs which call for little or no thinking, and the habits practiced in school seem to remain with them on the job. As far as is known, none of these graduates has been in serious trouble. By comparison with the old-type program, where the non-academic was subjected to the traditional course and through a feeling of futility became a discipline and an attendance problem, the special curriculum as developed by Castlemont has much merit.

A Small School's Interest in The Non-Academic

By CATHARINE G. McVEY
WALTER L. WINSTON

THAT the shop is "a dumping ground for the dumbbells" is an oft-repeated complaint in this field. This feeling, bluntly stated, is the basis for much of the conflict between the academic and non-academic groups in our modern educational system. However, it should be both a challenge and a compliment to the teachers who are handling pupils of low academic ability when the principal brings a boy to us and says in effect, "Everyone else has tried and failed. See what you can do with him; if you can't help him, no one else can!"

In our own school we have attempted to meet this challenge in several ways, but we have made particular progress in two fields—in the collection and use of instructional aids adapted to use with non-academic students and in the field of placement and follow-up. Since our greatest concern with non-academic students has been evidenced in the shop classes, this article will be devoted to a report of what has been done in our shops in these two fields.

After observing the attitude of our shop students when we have given them the opportunity to use non-academic materials designed to interest the commercial world, we have decided that lack of interest in academic subjects and materials of instruction is the prime factor in a majority of the problems emanating from the group of non-academic boys with whom we deal in our shop classes. Although a tremendous progress has been made in the preparation and use of instructional materials suitable for this type of student, much remains to be done.

It is conceivably quite possible for a large school so to distribute its teachers that special classes or special curricula or special sections can be provided for non-academic students. But when the faculty is small, anything more than incidental concern for students in the lower quarter becomes more difficult. For this reason, the accompanying article describing provisions made in a high school where there are only twenty-five teachers is particularly significant.

Miss McVey is head of the Guidance Department and dean of girls at the Oceanside-Carlsbad Union High School. Formerly she was girls' adviser for six years in the Oceanside Junior High School Division. Mr. Winston is a shop teacher in the Oceanside-Carlsbad Union High School and Junior College. From 1934 to 1937 he was on active duty in the CCC, and before that he taught aeronautics and shop classes at Merced High School. He has had much practical experience as an automotive and marine engine mechanic, and during the war he served as a mechanic and instructor in airplane construction and repair.

MANY teaching aids are available in the shop field which appeals to students of low academic ability and are both effective and inexpensive. They may be classed under three heads: First, interesting reading material from manufacturers; second, visual aids—pictures, diagrams, wall charts, sample exhibits, and motion pictures from the same sources; and, third, field trips, or better termed, "Educational Visits."

Under the first of these three headings come the hundreds of booklets, bulletins, and pamphlets put out by industrial concerns all over the country.

Advertising? Yes! But how educational, and written in such an interesting manner that they catch and hold the reader's interest. Kept on open shelves along one wall of the shop classroom, they invite the boys to pick them up and glance through their pages. Sketches, diagrams, and explanations of machinery, products, and activities which are aimed by manufacturers to develop potential customers do not fail to interest the non-academic students in further reading and discussion about these real-life topics. The automobile companies have spent fortunes in advertising their products; and their diagrams and booklets show every working part of a car, the history of oil, iron, transportation, and any product remotely connected with the industry, as well as details of construction — all beautifully illustrated by master craftsmen and written by professional journalists who aim at developing and holding interest.

Interest catching and holding? Yes! What boy does not dream of having a car of his very own in the near future? General Motors, alone, publishes ten or more beautiful pamphlets with colored covers and beautiful illustrations on such topics as: "Transportation Progress," "Modes and Motors (Styling)," "When the Wheels Revolve," "Metallurgy and Wheels," "Chemistry and Wheels," "Electricity and Wheels," "Diesel the Modern Power," and "Research Looks to New Horizons." The language is non-technical, and the elementary terms lend themselves well to simplified, non-academic reading material for this group. This fall several hundred of these bulletins were sent free of charge for our students' use. These represent thousands of dollars in cost of production by the best specialists in their fields. We are using these facilities which give us a rich body of material ready for immediate use on our library shelves.

Nearly every industrial firm publishes a "house organ" or monthly pamphlet telling interesting facts concerning the company's product. These bulletins often give job qualifications and furnish the latest word in vocational guidance material. We are on the mailing list of more than fifty such firms which send this literature free of charge to the schools.

In connection with this literature we make extensive use of visual education by films and pictures. By means of films supplied by industrial firms, our students actually see things made and processes performed which they might have difficulty in understanding if a textbook only were used. After seeing these processes on the screen, they can then read and understand what they are reading in the booklets published by the maker of the film and the product. This process, in turn, teaches the non-academic student to grasp the meaning of words unfamiliar to him and thus broadens his field of general educational interest. The September, 1939, number of the *Industrial Arts and Vocational Education* magazine includes a detailed list of companies which publish this type of material.[1]

Because of our location in a small town away from large industrial centers, we are handicapped to a great extent in the field of "educational visits." There are many places of interest here, however, which always give us a cordial welcome—the newspaper and telephone, water, ice, and gas and electricity plants, for instance. Our practices in this field are constantly changing to conform to our changing groups and

1 Chris. H. Groneman, *Teaching Materials for Industrial Education*, 28: 272-278, September, 1939.

the conditions in this type of work, but the underlying philosophy remains the same—education for living.

THE shop division of the Placement and Follow-up Department includes an advisory committee of four representative men who are garage owners in town. They meet once a month with the shop teacher to discuss common problems. The function of this committee is to advise the teacher in three fields: course of study, shop equipment, and placement of students. This group is an important one of the contacts for this department's placement activities.

Through the advisory committee a system of coöperative work has been developed whereby a boy may work at his job in town and take two or three hours of shop courses at school. He comes to school to solve problems that he meets on the job, and he learns skills that he finds that he needs in order to continue in his job or to advance. The success of this plan is proven by the fact that over 90 per cent of the boys in vocational shop courses have been satisfactorily placed.

Inasmuch as placement activities in behalf of our shop students are a part of the broader school placement and follow-up program—which is devoted almost entirely to helping those students who are classed as "non-academic"—it might be well to present a description of the broader program.

The Shop Teacher is a member of the high school Committee on Placement and Follow-up which is organized to coördinate the work of the Agriculture, Commercial, Part-time Placement, Shop, and Graduate Follow-up Departments.

A commercial teacher holds the chairmanship of the central school Placement and Follow-up Committee. His duties are outlined as follows: to act as chairman or organizer; to coördinate the work of the committee; to coördinate the work with the Guidance Department and with the attendance and work permit regulations; to register all applicants; to give reports and to supervise clerical work; to make office contacts with prospective employers and answer their requests; to select students for jobs; and to help students in making contacts.

The responsibilities of the teacher in charge of part-time employment are to keep up the employment files and records and to have charge of the temporary work for high school girls.

The Guidance Department is expected to coöperate in the following: to administer tests; to supply occupational information; to aid in follow-up; and to provide both educational and vocational orientation. Since good placement depends upon adequate information about a student, both interviewing and counseling are based upon the cumulative records provided by this department.

The five departments, Commercial, Part-time Employment, Follow-up, Agriculture, and Shop, have the following functions in common: to secure positions; to give students occupational information, advice, and guidance; to provide occupational training; to aid in placement; and to follow up placements in their respective departments.

The placement service acts as an articulating element between school and work, supervising choices on the one hand and adjustments on the other. Local conditions govern many of the conditions and details of the functions of the office; however, our plan is such that the primary purpose is counseling and only secondly placement.

In order to encourage the coöperation of local business houses, a central office is maintained at the high school, thus furnishing a definite place for personal interviews with prospective em-

ployers as well as employees. The personnel of the office practice class is used for an office staff. By rotating jobs at intervals, all students obtain experience as office attendants, telephone operators, and file clerks.

The Placement and Follow-up Department has adopted the following functions, with appropriate records in each case, as a basis for efficient and effective work:

1. To make contacts with employers. Two periods a day were used in this type of work during the second semester last year. A questionnaire was used to obtain information relative to the turnover of employees in the various occupations, the quality of work being done by former students, and significant statements relative to the strong and weak points of former student employees. Suggestions were encouraged by the interviewer relative to the effectiveness of our present curricular activities in order that we might profitably assist the non-academic student.

2. To receive calls from employers whenever vacancies occur.

3. To refer to employers applicants with the necessary credentials for the type of work desired. These are obtained from a summary of the rating sheets which are retained in the individual folders of applicants who have enrolled with the Placement Bureau and which represent the unbiased opinions of various instructors in all departments.

4. To follow up all placements within a short period and repeat periodically.

5. To keep records of all applicants for placement.

6. To direct and standardize the work of follow-up surveys.

7. To maintain necessary data concerning graduates of the high school and junior college.

8. To keep records of available jobs and their requirements.

Through the preceding description it is evident that the entire placement and follow-up service takes the non-academic student into account, aids him in choosing his courses, records his successes and failures, and uses these records to help him choose for himself the work for which he is best fitted. Then, through placement and coöperative work, or through check up on the job, this service aids him in finding success in work in which he is interested and for which he is fitted.

Film Production in Schools Increasing

Within a few years every school in the country will be making films of its own, Hardy R. Finch of the Greenwich (Connecticut) High School predicted at the annual meeting of the National Council of Teachers of English in St. Louis, November 24–26, 1938. He based his statement upon a survey which showed that today over 200 schools are engaged in production of films. The productions have included literary works, student-written scenarios, and pictures based on school and community activities, local history, imaginary trips, health, safety, and guidance.

Pupils derive many benefits from the making of school motion pictures, according to Miss Eleanor Child, also of the Greenwich High School, who reported that a school film can be made for an initial investment of $125, provided the school has a school projector and screen. "In estimating the probable cost of a picture," she said, "we allow an average of $6 per 100 feet of film, or four minutes of running time."

Roger Hill, headmaster of the Todd School for Boys, Woodstock, Illinois, suggested that schools film their Shakespearean productions, using a silent camera. Sound recordings could be made separately and synchronized with the picture, he added. "The chief educational value of the talking picture technique," Mr. Hill said, "is that a good performance is jelled. It is available for the inspiration of hundreds of other directors and thousands of other youngsters. I believe it can and will be a great new education tool."

Social Living Classes for the Underprivileged

By ETHEL PERCY ANDRUS

THE students at Lincoln, as in most cosmopolitan schools represent many races and many tongues. Their common opportunity of working, living, and playing together welds them into one vast family, surprisingly intimate and united. We strive to help each one of our boys and girls develop a pride in self, a faith in being able to do worthy work, a goal for the immediate present, and a conviction that the ultimate hope of America is founded upon the love and the work of them all—unto the very least. When they meet together in their semi-weekly assemblies they repeat in litany fashion the following confession of their civic faith.

THE LINCOLN RITUAL

Leader: We hold these truths to be self-evident that all men are created equal. God hath made of one blood all nations of men, and we are his children, brothers and sisters all.

Assembly: We are citizens of these United States, and we believe our flag stands for self-sacrifice for the good of all the people. We want, therefore, to be true citizens of our great country and will show our love for her by our work.

Leader: Our country does not ask us to die for her welfare; she asks us to live for her, and so to live and so to act that the government may be pure, her officers honest, and every corner of her territory shall be a place fit to grow the best men and women, who shall rule over her.

Assembly: The flag means universal education—light for every mind, knowledge for every child. We must have but one flag. We must also have but one language. This must be the language of the Declaration of Independence.

The teachers of Lincoln, holding these same ideals of democracy and service, after careful study build programs with and for their charges—both the scholastically privileged and the scholastically underprivileged. They try to gear these programs, as well as they are able, to the unique nature, interests, and needs of the boys and girls entrusted to them.

The term *underprivileged* is difficult to define. It connotes different things

The Abraham Lincoln High School, Los Angeles, represents a type of school which provides for its non-academic students by placing them in homogeneous groups. But the chief contribution of the school to these pupils, we suspect after reading this article, is one of spirit—a spirit of understanding and sympathy and appreciation.

Dr. Andrus, principal at Lincoln, is a member of the Board of Trustees of the California Society of Secondary Education and a past president of the Association of California Secondary School Principals. At present she is chairman of a sub-committee under the State Committee on Core Curriculum studying the following problems: the foreign parent and his divided allegiance, the use of foreign culture, glorifying our American heroes, and the nature of the core that is real and vital for underprivileged children. She and Dr. Lester B. Sands of Palo Alto, vice-chairman, "covet the interest of and contact with school men and women at work on these same problems so that the committee may convey something of real importance and value in its report to the teachers of the state."

in different places. In this category some schools would place those pupils who are not academically dedicated or successful; some, those who are not academically inclined or classified. This latter type of measuring stick is more commonly used than is presumed. Examination of certain progressive tests shows that competence in school fundamentals is weighted in favor of an understanding of the vocabulary and concepts of geometry, chemistry, and physics—academic subjects. Other schools label as *underprivileged* those pupils whose mental ratings on standardized tests are below a certain norm, regardless of the facts that proficiency in such tests largely depends upon vocabular range and that to the foreign pupil the English language is a second and formal speech because of the use of the alien mother tongue in his household. Other schools—but these in an ever increasingly smaller ratio—judge by social, racial, or economic status of the student.

To us at Lincoln the term *underprivileged* refers to those boys and girls who are markedly deficient in the use of the communication skills and other basic skills. Much of the retardation that we find is due to the pupils' linguistic handicaps. A vicious circle this! Boys and girls, three or four years retarded in the fundamentals, through long experience of failure have developed habits of indifference. They have grown to look on the school either as a legal hurdle that cannot be avoided or, perhaps, as a loafing place where only athletics, assemblies, lunch, and passing periods are understandable. Their nine years of school bankruptcy have left them in a rut of physical routine which leads from nowhere to nowhere. They are dull largely because they have never been victorious, have never tasted of success. To these confirmed misfits and failures, the only thrill of adventurousness and romance of reality has come from the creative arts, and that only sometimes and only then when they are talented in these directions.

At Lincoln we measure the ability of these pupils in the use of English by standardized tests. We stress the need for growth in English and greater proficiency in the three R's. We group them for such remedial assistance as is needed. Such homogeneous grouping holds no stigma of social segregation. Instead it challenges each student to compete with himself in raising his standard for skills in the fundamentals. This we do; but more than this, we try to wean these youngsters from indifference and the habits of ease and idleness, to make them alive and eager, to share our joy with them in the real business and happiness of living.

Certain things, we know, contribute to a contented life. As a basic need we count a feeling of self-respect, the sensation of being accepted and acceptable, the consciousness of being one with a group. The school must recognize this need and provide for its full satisfaction. This is the first prescription in any work in social living. Every activity is aimed toward fulfillment of that direction. Respect for one's self and for the other fellow's self, we find, makes for fine group morale; it helps break down religious intolerances; it destroys racial hates.

AT Lincoln we find our "underprivileged" coming largely from first or second generation Mexican homes. We find too the task of guiding them a happy one, because these boys and girls when once won to the enjoyment of school life are naturally of a happy temperament, sensitive to beauty, more or less passive in acceptance of authority, and skilled in crafts and creative handiwork.

Our big jobs then are:

1. *To establish pride in self and in one's familial race.* The Southwest is Spanish in color and historical background, in nomenclature of cities, festivals, and roads. We present in the school the Hispanic contributions to western civilization, and we present them from the angle of the Mexican pupils we would help, whose respect for self and race we are establishing. Our necessity is not only to build appreciation for the other fellow and his racial background in the large group gatherings, but within the social living units as well to establish a recognition of the fine contributions these peoples have made to the school, to the state, and to our civilization.

In recordings, in visual presentation, in song, dance, fiesta, and dramatic fashion, boys and girls of all races share in an enthusiastic exploration into the past, bringing to life again those colorful and adventurous soldiers, missionaries, and explorers who may inspire the Mexican with pride and his Anglo-Saxon neighbor with a glad appreciation of intimacy with people of such adventurous and romantic beginnings.

Dynamically to establish racial minorities to full appreciation, social living classes all meet together twice a week in student-controlled assemblies. One of these assemblies is called the World Hour and is dedicated to those larger happenings of national and international interests. The other, called the Lincoln Hour, deals with the problem of the immigrant and intensifies the loyalties to home, school, and community which later are converted and interpreted into patriotic love and service to America.

2. *To build faith that along the line of one's unique powers and interests there can be found happiness and content, and to give expertness as far as possible along those lines.* We must be realistic about the whole situation. Last week-end in a neighboring county, on finding the door locked to a comfort station of a very considerate oil company, I was told as the reason, "Today is a Mexican holiday." In the institute of that same county once I was challenged, "You do not, certainly, allow Mexicans to attend social dances!" With such adult reactions toward a minority group to take into account, we have an obligation to be definitely realistic in our treatment of these underprivileged folk because very shortly these young adolescents are to be thrown, vocationally dependent, upon an adult world. Therefore in our vocational shops the aim is not so much to prepare the youth for a definite trade for which there may be little or no vocational placement, because of prejudice against race or color, but to provide him with a variety of skills and techniques which may be gladly accepted by small shops or among his own people.

3. *To give them many opportunities to find, to see, to know, to appreciate and to create beauty—as they see it—but continuously to challenge them to higher and finer standards, discriminations, and performance.*

4. *To encourage them to assert themselves as citizens of our school republic, to undertake responsibilities, and to accept and to give leadership.* This is a real need and at times a disheartening project. But the enterprise repays the teacher a thousandfold and does more than anything else toward fashioning the dull, supine, cynical, yet arrogant foreign child into a happy, responsible, socially dedicated citizen.

5. *To give many opportunities for craft and handiwork.* Ceramics, art metal, upholstery, drawing, painting, life drawing, a cappella glee club, band, orchestra, poetry, drama, dance—all are theirs. In them they may gain the recognition of excellence. In them they may

attain social status and school applause.

6. *To give training in communication skills and techniques, in mastery of the three R's, to such degree that intelligent use of them in adult life would seem to be made possible, to help these youths grow proud of the story of our country, to know something of its crises, its opportunities, its possibilities; to make occasions for the attainment of the social arts and courtesies; to discuss with them sympathetically, family relationships and economies; to help them become aware of the dangers of propaganda; to present in continuity with these topics those age-old simplicities—love, loyalty, courage, tolerance—which will help interpret life for these boys and girls and give them the possibilities of fuller and richer living for themselves, now and in the days to come.*

IN these ways, our lowest quartile, those young boys and girls who are three or more years retarded in communication skills, who through long habit and experience have grown indifferent to and perhaps despondent of schooling as a joyous and valued occupation may, God and the faculty willing, find in their residence and intercourse at Lincoln some inspiration, information, and instruction that will help them to become citizens who will work and live together more coöperatively, intelligently, and sympathetically.

New Advisory Committee Publications

Ten new publications of the Advisory Committee on Education are listed below. They have all been printed in the United States Government Printing Office and can be ordered from the Superintendent of Documents, Washington, D. C.

The Federal Government and Education, by the Advisory Committee on Education, 1938. Price, 10 cents (in quantities); 31 pages.

Organization and Administration of Public Education, by Walter D. Cocking and Charles H. Gilmore. Staff Study No. 2, 1938. Price, 20 cents; 183 pages.

Federal Aid and the Tax Problem, by Clarence Heer. Staff Study No. 4, 1939. Price, 15 cents; 101 pages.

Principles and Methods of Distributing Federal Aid for Education, by Paul R. Mort, Eugene S. Lawler, and Associates. Staff Study No. 5, 1939. Price, 20 cents; 99 pages.

The Extent of Equalization Secured Through State School Funds, by Newton Edwards and Herman G. Richey. Staff Study No. 6, 1938. Price, 15 cents; 55 pages.

Selected Legal Problems in Providing Federal Aid for Education, by Robert R. Hamilton. Staff Study No. 7, 1938. Price, 15 cents; 71 pages.

Vocational Education, by John Dale Russell and Associates. Staff study No. 8, 1938. Price, 40 cents; 325 pages.

Library Service, by Carlton B. Joeckel. Staff Study No. 11, 1938. Price, 15 cents; 107 pages.

Educational Activities of the Works Progress Administration, by Doak S. Campbell, Frederick H. Bair, and Oswald L. Harvey. Staff Study No. 14, 1939. Price, 25 cents; 185 pages.

Public Education in the District of Columbia, by Lloyd E. Blauch and J. Orin Powers. Staff Study No. 15, 1938. Price, 20 cents; 99 pages.

A Terminal Program at the Junior High Level

By HAROLD B. WALKER

The important feature of this article is that it describes a terminal program on the junior high level. The program has resulted from an effort to adapt school work to the needs of the non-academic students of the Chemawa Junior High School in Riverside. The particular group of non-academic pupils for whom provision thus has been made is composed of Mexicans —this school of about five hundred is nearly one-fourth Mexican—who, because of environmental conditions and other reasons, find nothing in an academic program to hold them and who largely drop out of school as soon as the law will permit them to do so. In regard to the program described herein, the author of this article says: "Credit for the interest in and work with this problem must be given to the teachers who have carried on the work so far: Mrs. Hazel Phillips, who led the original planning; Mrs. Myra Noll, Ray Johnson, and Lewis Wickens, who are carrying on the work at present.

Mr. Walker is principal of the Chemawa Junior High School, which position he has held for eleven years. His earlier experience was received in other Riverside junior high schools and in private school work.

IN a general movement to eliminate overageness in the elementary schools in Riverside in 1936, a number of pupils fourteen and fifteen years of age were moved from the fourth, fifth, and sixth grades to junior high school. Because they were so definitely a group of "non-academic" pupils, some special provision had to be made for them.

These Mexican pupils had been retarded in traditional school courses by various causes, most of which still exist. First among these causes is the stock from which the people come, the poorer and mixed classes, mestizos, of Mexico, with varying proportions of Aztec, Indian, and Spanish blood. Accompanying this factor as a cause of retardation is the traditional attitude of the people, which might doubtfully be dignified by the term, philosophy. Characteristic statements from them might be, "Never do today what you can put off," "Do only what you must," or "The man who does more than he has to is a fool." On a race such as this, education, as we know it, is lost. Girls get married after a surreptitious courtship as early as they can escape the watchful eyes of parents. Boys find that English, history, and geography, and even arithmetic beyond the fundamentals—which they do very well—help them very little in picking oranges, apricots, peaches, grapes, or nuts.

This economic factor leads to the third chief cause for retardation. The family has to work. Their existence is from debt to debt. They live on credit wherever they are until the seasonal crop is harvested. Then they earn enough to pay off the debt and move to the next seasonal crop where the procedure is repeated. By the time the oldest child is at the age when he may drop out of full-time day school, the father is so broken down with work or ill health that it is really necessary for the child, boy or girl, to get as much work as possible to support the, by this time, usually large family. In a short time

the oldest child wishes to get married or have more of his earnings for himself. The next child has to go to work or wants some of the freedom of the older child. Thus the tradition is perpetuated.

The fourth factor is the varying enforcement of the compulsory education law throughout the State, with all the varied interpretations of what constitutes education for these people. After six years of moving to three or more locations where little or no school may be maintained, the child does well to have the equivalent of a fourth-grade education, only the few distinctly superior ones being able to maintain what might be considered a normal progress in school.

A few figures will show what has happened in one school in which the student body is approximately 25 per cent Mexican, mostly migratory. In the eleven years of Chemawa Junior High School's existence there have passed through its doors 379 Mexican pupils, not counting those who were in school at the close of the 1939 school year. Of these, 131, a little over a third, were graduated from the ninth grade. Of these, in turn, 37, less than a third, entered senior high school. Of the 28 who have had time to finish, only 12 have been graduated. Three others have entered the Spanish-American Institute at Gardena. Not one of these 15 belonged to a migratory family. Five were from one family alone.

What happened to the 248 who dropped out before graduation? Seventy-nine dropped out before the end of the seventh grade, while 39 more failed to return for the eighth grade, this accounting for almost half of the withdrawals. Sixty-three dropped out during the eighth year, while 37 more failed to return for the ninth grade, accounting for another 40 per cent. The remaining 30 dropped out during the ninth year. (What has become of that early objective of the junior high school, to bridge the gap between the elementary and the high school?)

The causes for this withdrawal, tabulated as accurately as records and memory permit, indicate various phases of two major reasons for withdrawal other than graduation. These causes are economic pressure and lack of interest. And combined with them usually is an affliction popularly known as "the age." It occurs at about the sixteenth birthday and is brought on by exposure to the ordinary curriculum and discipline of a school.

The problem of what to do with and for these children of migratory workers exists in many parts of the State. The answer can be found only by serious study, analysis, and experimentation. Briefly it appears to be terminal work of a practical and interesting nature.

THE experimentation at Chemawa began with the group of over-age children mentioned above. When most of them finally arrived, a special group was formed. Their work departed greatly from the established curriculum, in content, if not in name. The teachers concerned and the principal met in conference and decided rather roughly and vaguely upon general procedure. The sewing teacher seemed to get the idea first. The art teacher fell in line enthusiastically, and the shop teacher followed up with the boys. The "core teacher"—she teaches English, social studies, and mathematics — then started her work very ably. The pupils took the first suggestion and developed the idea with great interest.

The center of interest was the home. The work started with a survey of his own home by each child, the drawing of a floor plan, and the placing of furniture and utilities. From this point on the aim was to improve the home within the

means of the individual. Arrangement of furniture was studied, needs were noted. Attention was directed chiefly to the kitchen. The boys included the yard. Knife racks, hot dish pads, towels, holders, and other small articles were designed in art and made in the shop or sewing rooms. Scraps of wood, tin, glass, and cloth were used. Budgets were made out and accounts were kept for arithmetic. Reading was about the various materials used in the home, the foodstuffs and their sources. This reading brought in, naturally, much of the usual material of geography. Written and oral reports on the reading and some discussion of current events taken from the local daily paper made up more of the English work. The bulk of the reading material was kept as much as possible near the reading ability of the pupils.

A party was suggested by the girls. Written invitations were sent to the boys, who replied in writing. The girls made all arrangements for food and amusement. This event provided an invaluable opportunity to learn etiquette practically and was one of the high points of the year.

Many fine outcomes of this whole work were noted. Unfortunately, other classes became so crowded that the work had to be curtailed greatly in the next year and was practically eliminated last year when changes in the faculty presented another difficulty. During those years, however, some other teachers became interested in the problem and worked devotedly on it.

THE plan for the current year concerns two groups of about thirty each on an elective basis in the eighth and ninth grades. The two groups are about evenly divided as to sex. They will be divided by grades for core work and by sex for what is called homemaking, planned for a two-year program. For the girls, the work will include seasonal canning; furnishing a home—a school room at present, later, a model home, which the boys hope to build with materials from an old dwelling about to be razed on the school grounds; personal care with demonstrations by a beauty parlor operator, a former Mexican student; laundering; mending; child care — babies are arranged for; making a layette; making a "hope chest"; getting a job; and household repairs. Minimum requirements in sewing and cooking will be met for high school credit. The boys are planning the house project mentioned, household repairs, some gardening, some automobile repairing, and some vocational training—pruning, picking fruit, care of groves, smudging.

The core work—English, social studies, and mathematics—is planned to be related to the homemaking work as was previously done. At the same time minimum requirements will be met in these subjects so that further scholastic progress will not be impaired. Business practices of suitable nature are studied in mathematics by other groups; consumer mathematics has already been tried out in this school and approved for the rest of the city and, consequently, adaptation is hardly necessary in this line.

The surprising aspect of the situation is the reaction, not of the Mexican children who have welcomed the plan, but of the other pupils, both boys and girls, who have expressed disappointment over not having the opportunity to do this work. They say, "We need it just as much as they do." And perhaps they do. After all, the aim is to enable these youngsters to become better homemakers.

Naturally, the course is still in a state of flux and probably should remain so. The needs of the pupils will vary from time to time and the work to be done must vary with those needs.

Remedial Reading for the Non-Academic

By ADA PLUMLEY
VIOLA WEAMER

Probably the one type of provision for non-academic pupils which is most frequently found in California is that of offering remedial instruction in the tool subjects, with particular emphasis being placed on reading. Representative of this type of remedial instruction is the Directed Reading course of the Fremont High School, Oakland. Accordingly this excellent report of an attempt to evaluate the progress made in the course helps to round out the picture which the present symposium attempts to give of what is being done for the non-academic in California's secondary schools.

"Mrs. Plumley has been teaching Directed Reading at Fremont for the past two years and has been ably assisted by Miss Violet Weamer during the past year," writes Dr. Rex H. Turner, principal. Mrs. Plumley has taught English at Fremont and at McClymonds High Schools in Oakland, and in Indiana, Oklahoma, and Colorado schools. Miss Weamer, before going to Fremont, was head of the English Department at Dunsmuir Joint Union High School.

AT Fremont High School, in Oakland, we have set up a course for those students who are deficient in reading skill. Since the pupils in this course are truly non-academic, in that they are unable to succeed in courses which require ability to understand the printed page, an account of our efforts at evaluation of this course and a description of the apparent outcomes of the classwork should contribute to the present symposium.

For a long time we have been interested in evaluating this Directed Reading Course, and so it was decided that during the spring of 1939 we would give particular attention to all low elevens who were taking the course for the first time. At the beginning of the semester we gathered all information available concerning the abilities, the skills, the background, the interests and ambitions of these pupils; we have kept, as accurately as possible, a record of the work of each one and have tried to ascertain just what progress each has made during this semester.

Enrolled in the four classes during this semester were twenty-four low eleven pupils, 3 girls and 21 boys. Their I. Q.'s ranged from 63 to 93; only two were above 90; seven were between 80 and 90, ten between 70 and 80, and five below 70. Their chronological ages in January of this year were from 15 years and 11 months to 17 years, 2 months. We do not have their present reading ages, but in the fall of 1937 when these students were in the high ninth grade, their reading ages varied from 9 years and 10 months to 12 years, 11 months. Their marks in English for last semester were 2 C's, 15 D's, and 7 F's.

When asked in a questionnaire to name three books they had read and enjoyed, only fourteen of this group could remember any books read, and of these, four mentioned such books as *The Tale of Two Cities* and *Heroes of Progress,* obviously required reading in the tenth grade, and probably neither enjoyed nor understood. In response to the question about favorite maga-

zines there was a variety of answers, but eight students stated that they read no magazines at all. About half said they read newspapers regularly, but nearly all of this group enjoyed most either the sports or the comic pages.

We wished to secure three papers written by each pupil in his former English class, but six had apparently done no written work at all during the last few weeks of the fall semester, and ten others had turned in only one paper. Many of the papers were answers to test questions, spelling papers, definitions of words, or work obviously copied from books or magazines. The few papers which might be called compositions were nearly all poor from the standpoint of thought and expression and showed numerous errors in spelling, punctuation, and grammar.

In our effort to plan the work to meet the needs of the pupils, not only of the low eleven group, but of all those enrolled in the Directed Reading classes, we have kept in mind six definite objectives:

1. To inculcate a desire to read.
2. To develop self-confidence and eliminate an attitude of "defeatism" brought about by previous class contacts and class failures.
3. To improve study habits and develop greater power of concentration.
4. To increase the rate of reading and the pupils' ability to comprehend what they read.
5. To develop as far as possible the ability to think clearly and constructively and to express thoughts accurately.
6. To improve the written work by giving attention to the mechanics of writing.

NEARLY all of the pupils who enter our classes dislike reading, and many have an absolute animosity toward books. We believe it is of primary importance to break down this prejudice and lead the pupils to a realization that reading is pleasure and that there is a joy in living vicariously the experiences of others. We cannot estimate in per cent nor prove by statistics to just what extent the attitude of our pupils toward reading has changed, but we who have observed these low elevens from day to day have found abundant evidence that there has been a steady progress toward the realization of the first of our objectives. These students now begin reading promptly without waiting for the bell to ring; there are fewer forgotten books; pupils ask to have books reserved; during the Easter holidays four read two books, and nine one book; they now bring books from the library and ask permission to read them; and there are fewer adverse criticisms. Seven of the group told me the first week that they wished to drop the course. The reasons given were the usual ones: they didn't like to read, they couldn't read as many books as we required, and they didn't like a class where there was no talking (class discussion). We asked each of these seven within the last week of the semester if he wished to take Directed Reading next semester and all have said they did wish to.

Our greatest difficulty in arousing and developing an interest in reading is in finding suitable books. These boys and girls do not wish to read children's books; they are interested in people of their own age or in adults; there must be plenty of action and a vocabulary simple enough for pupils with an average age of twelve to understand. It is not easy to find such books but when we do nearly all of the pupils, even those of least ability, now read them eagerly and seem to enjoy them thoroughly. A simplified version of *Lorna Doone*, an easy but vigorous biography of Knute Rockne, another of Daniel Boone, and the sea stories by Howard Pease have passed from one pupil to another in rapid succession and have scarcely remained on the shelf overnight throughout the semester. Only last week I saw David, stubborn and sulky the first month and insisting that he didn't like books, close with a sigh, *Pilots of the*

High Sierras, a good and not too easy story of aviation, and look off into space for a while. When asked if he had enjoyed it his reply was, "Yes, it was just so darned good I hated to finish it."

MANY of the Directed Reading pupils, because they have not succeeded in their school work, have come to think of themselves as different from, and inferior to, their classmates. This feeling of incompetency is unwholesome; it interferes with their school work, and is, as we know, one of the leading factors in producing undesirable citizens. Our second objective is, therefore, to develop self-confidence and give these pupils the satisfaction of achievement. Although the reading is done in class groups and all pupils have the incentive of trying to do well what their fellows are doing, the work is largely individual. Each pupil reads books that are on his own level and that fit his background and interests. Each one is given such assistance as we feel he needs. His work is criticized; his mistakes are explained; and suggestions for improvement are made in conference with him while others are busy reading or writing. His written work is compared, not with that done by his classmates, but with his own work of last week, or last month; and no matter how poor the work was in the beginning we measure his success by his improvement.

In this group of twenty-four there have been at least ten in whom self-satisfaction because of work well done has been very apparent. Perhaps one illustration will be of interest:

Lester, large, awkward, self-conscious, told me the first week he didn't like to read, he didn't think he could write a book report, he couldn't write with a pen, and his spelling was terrible. His former English teacher had no papers he had written and said he seldom made any effort to do written work. He read only a few pages in each of the first three books I gave him and spent most of the first two weeks in idleness. But finally he became interested in a simple cowboy story and read intently till it was finished. Then he insisted that he couldn't write the report because he didn't know "nothin' to say." Together we talked about the story and worked out a synopsis and a discussion of one of the characters, and then when I showed him the outline and he realized his report was well started he was quite willing to go on. He worked for four days over that first paper, but when I could tell him honestly that it was pretty good and that I especially liked "so and so," he beamed with pleasure and patiently went to work to look up in the dictionary every one of the twelve words he had misspelled. Lester is now one of the best workers in the class. He has read thirteen books, and his written work has steadily improved; but of more importance, I believe, is his self-satisfaction and his pleasure in what he is doing.

We cannot say exactly just how many of these twenty-four low elevens are happier and have greater self-confidence because they are succeeding in this course, but certainly most of them begin their work promptly, try earnestly to do it well, make corrections cheerfully, are courteous and coöperative, and seem most appreciative of any word of commendation.

BESIDES habitual waste of time and poor concentration, we found at the beginning of the semester that these pupils had formed a great variety of bad habits and peculiar ideas as to how to go about their work. One boy insisted on reading two books at once, reading first a chapter in one, then a chapter in another—his reason being that he then didn't get so tired of either book. Several wished one book to read at home and another in class, to avoid

carrying a book. At least ten tried reading the first three or four and the last chapters, or a few pages here and there, and were dismayed when we detected what they were doing and refused to accept the report. Many, even if they started the written work promptly, would, after writing a few minutes, put it aside and start reading another book with the promise to continue it "tomorrow" and if left to their own decisions would thus put it off from day to day until it was not written at all. Three or four were exceedingly careless and frequently left in the locker or at home the book they were reading. And then there were Rene, who was willing enough to read, but who refused absolutely to write a report, and Ernest, who brought a different book to class nearly every day during the first month and read a chapter or two of each one but finished none of them.

In our effort to improve study habits and develop better concentration the first step always has been to find a book which the pupil understands and in which he is interested. Sometimes this is difficult because he is so convinced that he doesn't like to read that he rejects every book after a casual glance, but in the end we nearly always succeed in finding something that makes an appeal, and when the pupil has enjoyed reading one single book we have gone a long way in solving the problem of waste of time. Every succeeding book he reads with pleasure means less idleness, better concentration, and, we believe, a step upward in comprehension and appreciation.

After the first two or three weeks nearly all the pupils concentrate quite well while they are reading. But when a book is finished and the report must be written, a new difficulty arises. To write a synopsis, a character sketch, or to give one definite reason why a book was worth reading is a stupendous task to many of them. When they realize that it is difficult, the reaction almost invariably is to decide they can't do it, and if left to themselves they will sit whole class periods accomplishing nothing. This was particularly true of the low elevens. Not more than four or five began the first report promptly and completed it within a reasonable length of time. In some cases a few words of advice or encouragement now and then were all that was needed to keep them at the task, but many had to be taught step by step how to do the written work, and an interest in it and a desire to do it well had to be developed before we could expect consistent effort or good concentration. We had to be on the alert constantly to watch the progress of each one and to go to the assistance of any who stopped writing or seemed to be losing interest in what they were doing.

As self-confidence increases, almost invariably study habits improve. With only four or five exceptions the low elevens now work steadily and try hard, because the task given them is something they believe they can do. Even Lawrence, with an I. Q. of 63, has definitely improved. During the fourth week of the semester, having finished his first book, he sat for four days doing nothing so quietly that his idleness wasn't discovered, and then he was six days writing a three-page report. He has now read nine books; he starts the written work immediately when he completes a book and usually finishes it in less than two days.

OUR fourth objective is to increase the rate of reading and the pupil's power of concentration. Here again we believe the most important factors are interest and self assurance. Surely a pupil works faster when he feels that his task is not an impossible one, and he reads less haltingly that in which he is interested. Experience with these

retarded pupils leads us to believe that lip movements, eye fixations, and so forth, important as they may be, have less to do with the rate of reading than interest in what is read. Inability to comprehend and therefore lack of interest is, in our opinion, the chief factor in making slow readers.

John, who averaged reading only eight pages in fifty minutes during the first week, had insisted on reading the life of Andrew Carnegie because it was a small book; but last week when he was reading a simple dog story his average was nineteen pages in fifty minutes.

The number of books the pupils read in a given period depends on several things, but we believe it indicates to some extent the rate of reading. Thirteen pupils read more books the second card period than the first, and eighteen read more the third period than the first. The gain in number read by the whole group was 15 per cent the second, and 27 per cent the third card period.

OUR fifth objective, to develop the ability to think more clearly and express thoughts accurately, is closely related to comprehension. At the beginning of the semester, at least half of the low elevens either confessed openly or showed by their attempted reports that they knew, or at least could tell, very little about the books they had read. The chief difficulty, as far as we were able to determine, was that they only glanced over the words, without really thinking. One boy read Stevenson's *Kidnapped* for his first book and gave in his report that the book was worth reading because it was a good one to "skim." His report showed, and a conference with him further proved, that he knew very little about the story. This idea of going rapidly through a book, selecting the important points, and concentrating on them is, of course, a valuable asset. It is especially important for the student who is to go on to college, but it is probably entirely beyond the ability of most of this group, and their attempts to read rapidly have resulted in their merely glancing over pages with little thinking and not much idea of what is read.

Realization that they must write a report which requires an understanding of the book has perhaps done more than anything else to break up this tendency to read superficially, but the personal conference is also helpful. We have tried to stimulate thought by questions; we have been ready to explain the meaning of sentences or paragraphs and to make clear historical and geographical references. We have insisted that the reports follow a definite outline, even though they may, at times, seem stereotyped and somewhat forced, for we feel that these students must learn to answer specific questions and give certain information clearly and accurately before they can write anything original or creative.

Growth in clear thinking and accurate expression has been slow, but now that the semester is nearly over we believe that enough has been accomplished to justify our continued effort to attain this objective. Mary and Milton are still unable to write anything that could be called a book report. Arthur works so slowly that he has not accomplished much. Elbert and Ernest both have ability but have formed careless, slovenly habits of thinking, as well as of writing, and while they have made some progress they still do poor work. But the other nineteen have definitely improved.

WHILE the primary purpose of the written report which we require is to stimulate thought, it also serves as a medium for evaluating the pupils' work and gives opportunity for practice in writing. Though few of our

pupils will continue their formal education beyond high school, we believe that every one of them, at some time or other, will be called upon to write a letter or fill in an application blank and that everything they learn in this course about correct writing will surely be to their advantage. We have chosen, therefore, for our sixth objective, improvement of the mechanics of writing.

The written work of nearly all of the low elevens was exceedingly poor to begin with. After four and a half months of painstaking effort on the part of pupils and teachers the work still leaves much to be desired; however, about half of these boys and girls now write quite well, and we can say honestly that nearly all now do decidedly better than at the beginning of the semester. Such progress as they have made we believe is due largely to two things: first, that each paper is read, errors marked, and the paper returned to them for correction, and that papers must measure up to certain standards before they are accepted; and, second, the classes are small enough and the work so planned that there is a chance for personal conference with each pupil while the paper is being written and after the errors have been marked.

We have kept as accurately as we could a record of each pupil's errors in spelling, sentence structure, punctuation, capitalization, and grammar. For purposes of comparison we have chosen the first three and the last three papers written by each pupil, as we believe this will give us a fair estimate of what has been gained during the semester.

On the first three papers there was a total of 556 misspelled words, and on the last three 309, an improvement of 44 per cent. The greatest number of words misspelled by any one pupil on the first three papers was 58, and on the last three papers this boy misspelled 32 words. Another, who misspelled 44 words on the first three papers, had only 17 on the last three; 11 pupils showed a more than 50 per cent improvement in spelling.

The total number of errors in sentence structure (we have given attention particularly to the fragmentary and "run on" sentence) on the first three papers was 378 and on the last three, 230, showing a gain of 39 per cent. Ten pupils had less than half as many errors on their last three as on their first three papers. So far as we are able to tell by our tabulation of errors the improvement in use of capitals has been about 43 per cent and in use of punctuation marks 38 per cent. We recorded only such mistakes in grammar as tense of verbs, case of pronouns, and confusion of adjectives and adverbs. Based upon the first three and the last three papers, our records show a 28 per cent improvement.

With only three or four exceptions the pupils have tried hard to do better written work. They have been willing to look up words in the dictionary and to re-write sentences, paragraphs, or whole pages as suggested. So far as we know only one wished to drop the course because of the written work, and most of them seem to derive great satisfaction from the written reports as something tangible by which they can measure their achievement.

IN conclusion we would say that we do not wish to give anyone the impression that the course in Directed Reading is a panacea for all the difficulties met in teaching retarded pupils. We do not succeed with all the boys and girls in the course; some of the low elevens have improved only a little, and perhaps two or three not at all. But the observation of this group has strengthened our faith in the course and our belief that all that we do is based on sound psychology.

How Build an Intelligent Public Opinion?

By FREDERICK E. WESSON

EVERY year our secondary schools turn out thousands of vocationally trained students who are foredoomed to disappointment because there are no jobs for them. We cannot place the blame for this condition on the training they receive, for many of these unemployed youths are well qualified to hold down good jobs. In order to make way for the legion of trained youths that the schools are graduating, it will be necessary for society to make some fundamental adjustments.

The American people are not satisfied with the stopgaps that have been improvised to alleviate unemployment. Pump-priming is not a permanent solution either, and WPA jobs are not adequate to provide a decent standard of living. Many economists have been clamoring for an economy of high production, low prices, and high wages—in other words a program of planned abundance rather than one of contrived scarcity, a program to do away permanently with unemployment. Aside from the question of whether or not it is good, such a program will not come until the American people are taught to demand it. If the schools do not participate in the choice, the people may get something entirely unsuited to American traditions. In the past the people of the United States have been left to their own devices while the schools remained strictly aloof from any consideration of social and economic choices. Some schools still remain aloof, but it would appear that theirs is a great responsibility to build a public opinion sufficiently intelligent to deal with the social problems of today.

In explanation of the point of view expressed in this article Mr. Wesson says: "During the time that I have been engaged in educational work I have been impressed by the realization that building public opinion is one of the most important functions of the secondary schools and that the solution of the problem does not devolve upon the social studies teachers alone but upon the school as a whole."

Mr. Wesson teaches salesmanship in the George Washington High School, Los Angeles. Prior to last year he taught social studies in the Santa Maria Junior College and High School and in the Beverly Hills High School. He has served as editor of "The California Business Education Bulletin."

FOR nearly 150 years, prior to 1930, we patiently suffered from recurring periods of dizzy prosperity and periods of bewildering depression and unemployment without doing anything intelligent about it. American life in the past has been characterized by opportunism rather than by scientific planning. It has been a mad scramble for profits in one form or another. The tragedy of the whole thing is that when America did decide to make a change, necessity rather than science dictated the choice. The American people did not choose to take a new course; circumstances forced the choice upon them. All of which means they could have avoided much suffering and privation by giving articulate expression to their will at an earlier date. Just how much blame the educational system

must accept for this remission is questionable. Consensus of opinion seems to place considerable responsibility on the schools.

The very foundation of the public school system rests on the assumption that men can be taught to choose their institutions scientifically rather than haphazardly. If this assumption is wrong the whole American system of education is a failure. Men have the kind of institutions they have because they are the kind of people they are. It is to be hoped that education will play a greater part in modifying behavior in the future than it has in the past. At least, the school should give them a knowledge of choices and an emotionalized drive to do something about their choice. The mere process of storing information will not accomplish this.

If we did not know that education can change human nature there might be some excuse for discouragement. Any teacher who does not believe that institutions can be modified through education is in the wrong profession. If changes come only as a result of economic necessity, it is a pretty crass world in which we live, a world in which social education is a futility and social justice a vagary.

We know there are serious dislocations in our economic society about which modern youth knows very little—the Report of the Commission on the Social Studies lists the following major tensions of American life:

> Privation in the midst of plenty, violations of fiduciary trust, gross inequalities in income and wealth, widespread racketeering and banditry, wasteful use of natural resources, unbalanced distribution and organization of labor and leisure, the harnessing of science to individualism in business enterprise, the artificiality of political boundaries and divisions, the subjection of public welfare to the egotism of private interests, the maladjustment of production and consumption, persistent tendencies toward economic instability, disproportionate growth of debt and property claims in relation to production, deliberate destruction of goods and withdrawal of efficiency from production, accelerating tempo of panics, crises, and depressions attended by ever-wider destruction of capital and demoralization of labor, struggles among nations for markets and raw materials leading to international conflicts and wars.[1]

Every one of these problems has broad social, political, and economic significance. Some general knowledge of most of these problems is indispensable if public opinion is to be intelligently directed. It is quite obvious that under present-day methods the majority of boys and girls in the secondary schools are incapable of forming an intelligent opinion on these problems. If our schools can remedy this situation, perhaps many of the problems might eventually be solved, for the youth of today are the leaders of tomorrow.

Definitely our skills will mean less and less as more and more people are relegated to the relief rolls. Basic institutional changes are inevitable. In a democracy changes seldom occur unless they are buttressed by public opinion. The schools can do much to promote this opinion.

THE fact is that the modern high school student is an economic illiterate in many respects. We shall not quibble about who is to blame, whether it is the Social Studies Department, the Commercial Department, or the English Department. If we are to take the student where we find him and fulfill our obligation to society, the fault would seem to rest with all departments, except that by the very nature of their work the Social Studies and Commercial Departments should come in for the greater part of the responsibility.

Many students receive little training in socio-economic thought in high school because they cannot take the

[1] *Conclusions and Recommendations* of the Commission on the Social Studies, Charles Scribner's Sons, 1934, p. 18.

right courses or the right teachers. In many cases the departmental organization is responsible for this limitation. A student who takes most of his work in one department, as, for instance, shop, music, art, or languages, has little opportunity to meet the major social and economic problems face to face unless he is particularly fortunate in selecting a teacher who will teach them. Usually the required one-year course in social studies is inadequate.

No one department should be held responsible for guidance in a field of human thought and activity which is so vital to the growth of social, political, and industrial welfare. Students must be taught by all teachers when the time is propitious and when there is readiness, not necessarily in Chapter X of the text during the fifth week — for example, it is hardly conceivable that any teacher could have denied his classes the experience of listening to Edward VIII's abdication speech on the radio because he had planned something else at that time.

The teaching of English is not confined to the English Department nor should the teaching of socio-economic problems be restricted to the social studies teachers. Educational literature has had much to say about the teaching of the whole child. It appears that the time has come to say something about the duties of the whole school. Who has a better chance to teach some of the intricacies of high finance than the bookkeeping teacher? Who has a better opportunity to introduce the problem of propaganda than the advertising teacher? In both instances you have commercial teachers teaching material which from the traditional departmental point of view has been part and parcel of the social studies curriculum. This may be incidental teaching, but often such contingent material may be more meaningful than the regular content. Fortunately, today there is a growing tendency for teachers to leap over subject matter boundaries in an attempt to fulfill the immediate needs of their pupils.

CRITICISM has often been made that economic problems are too abstract for high school students. This criticism is likely to be true if the teacher has followed the practice of divorcing the teaching from the contemporary world and from the world with which the child is familiar. Many social studies teachers have met great resistance because they approached the problems in textbook fashion rather than in a natural way. To approach a problem naturally or psychologically is to take it up when it means something to the student, to introduce it from the student's point of view so that he sees it in the light of his own experiences. Naturally the events of the contemporary world are part of the child's experience. (To prove this it is only necessary to give him a copy of *Life* magazine and watch the results.)

After students leave school little can be done to guide them in critical thinking. Outside of school their opinions are molded largely by the movies, the radio, the press, and current literature, none of which can be said to have a scientific approach. The point to remember is that before ever there can be an articulate and critical public opinion there must be a vitalized, emotionalized education, and this only the schools can create. America should not have to wait for the pressure of circumstances to effect changes as was the case in some European countries. By that time it is too late to do the job rationally.

A Functional Approach to Physics Teaching

By M. S. ALLEN

In this article Mr. Allen describes the very interesting course of study he has organized at Long Beach Junior College, the syllabus for which course has but recently been published. In an introduction to the syllabus, Professor C. C. Crawford of the University of Southern California, has this to say of the author: "Few college instructors go to the trouble to do so thorough a job of coördinating their course plans with the community resources, the industrial publications, and the library facilities."

Mr. Allen is an instructor in physics at Long Beach Junior College. His early training was in engineering—he has had practical experience with such firms as the Shell Oil Company and the Pacific Gas and Electric Company—but eventually he turned to education. Studying under the late Dr. Frank C. Touton of the University of Southern California and later helping Dr. Touton with some of the curriculum projects for which he was a consultant, Mr. Allen became much interested in the problem of functional education and what it means to the student and teacher.

A JUNIOR college instructor today is conscious of strong pressure from several directions. In his graduate seminars, he is urged by the university to make his courses functional—in other words, to make them more adequately meet the particular needs of society which have been entrusted to or thrust upon the junior college. The business and industrial employer shrieks loudly for graduates who have at least some conception of his problems before he is asked to employ them. On the other hand, however, entirely honest, but more conservative school associates often strongly oppose procedure changes that seem feasible and timely to experimentally minded teachers. The students also, while not so strongly organized as the other three groups mentioned, have a very clear idea of what they want in a college physics course. The student desires a chance to be original, to express himself in many ways. And he is becoming more and more insistent in his demand to know what is going on around him so that he may carry on his college work in an intelligent manner. He wishes to know the values inherent in a study of the laws and principles of physics and in the performance of the laboratory exercises (*exercises* and not *experiments*, since most physics students never do perform an actual experiment). The student is becoming more articulate in his wants, for the merits of free thought and free speech which have been so thoroughly instilled in him are now beginning to affect the junior college curricula.

Twelve years ago, while spending a stimulating year in close association with the late Dr. Frank C. Touton, I began to develop a physics course of study that I hoped, in a measure at least, would satisfy all four groups. Even after all these years, however, the job is still incomplete, so this paper constitutes merely a progress report, submitted in the hope that perhaps it may be of some value to other secondary school instructors.

OUR primary aim in junior college physics at Long Beach Junior College has been to bring about an integration of science and community life. We are attempting to do this through a dynamic consideration of vital community problems. To avoid academic diffusion and to assure application, every problem begins with a real action situation. The progress is from a problem to the theory needed to solve it, rather than from a theory toward an application that often is never made. If the start is made from the problem, the acquisition of the theory that is essential to the satisfaction of the want is greatly stimulated. This approach, of course, is correct psychologically.

Every one of the 250 varied problems included in the present course of study is so phrased that the student can readily picture himself in the situation described. In most cases he finds himself confronted with questions that he is unable to answer. If the problem seems worth-while to him he will then wish to do something about it.

The following page from the course will illustrate the actual material placed in the hands of students:[1]

PART III, CHAPTER 4

VOLTAIC CELLS, STORAGE BATTERIES

1. How would you rebuild a dead automobile battery?

Visit: (1) An automobile battery rebuilding shop. (2) A car battery factory. (3) An automobile battery salesroom.

Interview: (1) A car battery rebuilder. (2) A designer for a large battery manufacturer. (3) A battery salesman.

Read: (1) "Latex Battery Separators," *Indus. and Eng. Chem.*, 29:192, Feb., 1937. (2) "Measurement of Electrical Resistance and Mechanical Strength of Storage Battery Separators," *U. S. Bur. of Stds.*, T 271. (3) *Com.*, 71-76.[2]

Experiment: (1) Tear down and rebuild an automobile battery that has become dead and will not take a charge.

Contribute: (1) An oral or written report on legitimate and unethical methods of battery rebuilding as practiced.

2. How would you vary the charging rate of your generator if your battery was undercharging?

Visit: (1) A well-equipped battery and generator repair shop. (2) An automobile supply house handling generators.

Interview: (1) An experienced ignition specialist. (2) A dealer handling generators.

Read: (1) *Com.*, 72, 82, 344:11400.

Experiment: (1) Determine the E.M.F., the voltage, the maximum current obtainable, and the charging rates for various cells.

Contribute: (1) An oral or written report on the proper charging of car batteries while in the automobile in use.

3. If you were in the business how would you charge batteries?

Visit: (1) A modern battery charging shop. (2) The establishment of a dealer in battery charging equipment.

Interview: (1) An expert battery repairman. (2) A salesman of battery charging equipment.

Read: (1) "Storage Battery Charging," *Elec. Eng.*, 54:516, May, 1935, and 55:190, February, 1936. (2) "Operation and Care of Vehicle Type Batteries," *U. S. Bur. of Stds.*, C 92. (3) *Com.*, 344:11400.

Experiment: (1) Assist a battery service man in the preparation and charging of some automobile batteries.

Contribute: (1) An oral or written report on modern methods of battery charging and servicing.

As can be seen from this sample page, five types of activity are suggested in connection with each problem; the student is instructed to visit, to interview, to read, to experiment, and to contribute.

AN appreciation of the problem that no amount of academic lecturing could ever hope to achieve comes from a visit to some place where the solution of the problem is essential to the maintenance of a business.

Interviews with persons whose success depends upon an understanding of

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1 M. S. Allen, *Junior College Physics (A Functional Approach)*, Southern California School Book Depository, 3636 Beverly Boulevard, Los Angeles, California, 1939; 175 pages (mimeographed).

2 "*Com.*" refers to commercial literature indexed and numbered in the published course of study.

the problem have helped many students to find themselves. For example—as the direct result of his field experiences one premedical student was taken under guidance by one of the leading X-ray diagnosticians on the Pacific Coast. This doctor took the boy to consultations, clinics, operations, and medical meetings. These life experiences, which did much to help this student through a particularly trying period of personal readjustment, were not to be found between the covers of even the excellent textbook used by the class. Another student interviewed the Southern California manager of one of this country's most important electrical concerns in the quest of material for a paper. The manager subsequently sent for the completed report and, largely upon the strength of it, offered this junior college boy a position that he had refused more than thirty other men, the majority of whom had graduated from four-year institutions. Both of these students received grade credit for making these visits and interviews. We tell our students frankly that we shall not hold them responsible for any principle whose value cannot be justified in actual practice, and thus the interview performs an important function in the course. In the evaluation of their work we carefully consider *all* evidence of scientific development that is presented to us.

Familiarity with available sources of material needed to solve possible future problems is often stressed in lists of science course objectives. A critical examination of his own practices convinced the writer that his students were by no means achieving the familiarity with available scientific literature that they should have. A canvass of all the major American book companies, which showed that there had been no text published that could aid in the solution of even an appreciable fraction of the problems raised in the course, compelled recourse to other sources. Current magazine literature was searched for pertinent articles; extensive use of the *Engineering Index* made the selection of adequate references quite certain. This index specializes in magazines of interest to the professional engineer and usually avoids the extremes often found in the other common indexes, and its very complete abstracts in themselves make an intelligent selection possible. The custom of extensive use of library books is so common as to need little mention. One slight variation that has had the effect of greatly extending the number and variety of books read by the students is the arrangement of books in the bibliography according to library call numbers.

Two other extremely valuable reference sources frequently neglected are United States Government documents and commercial literature. The many hours that are required to locate the magnificent government reports through the woefully inadequate indexes are amply repaid by the richness and scope of the material unearthed. The literature distributed free of charge by the leading industrial concerns is often excellent and pertinent. A few dollars for postage resulted in the accumulation for our own college library of an extensive collection of valuable, well-illustrated material. This material, directly keyed by individual number to the various course problems, is extensively used and valued by the students.

In recognition of the wide range of abilities and interests that are represented in junior college physics classes, our course of study includes many experiments of great variation in type. In addition to the customary formal type, there are four other kinds of experiments not customarily found in laboratory manuals. The five are (1) *Illustration* or "pushbutton- museum" type,

(2) *Exercise,* involving the performance of some very simple task and seeing what happens and, possibly, of looking for a rather obvious cause, (3) *Verification,* the regulation "cook-book" type, which, because of excessive and almost exclusive use, has been gradually killing student interest in physics for many years, (4) *Application,* such as an analysis of what constitutes a good vacuum cleaner on the basis of comparisons between good and poor ones, with sufficient adequate standards being available to enable the student to make the evaluation himself, (5) *Experiment,* where there is a true problem involved and the opportunity for work of real distinction.

The general sequence of the work in the physics classes is indicated in the course of study, which supplies the necessary unity and scope for class work. Each student, however, develops problems of his own proposing, which makes in reality a separate course of study for him individually; and thus experiments usually arise out of the student's individual sequence program. A good example of an experiment adapted to individual interests is the precision determination of the shutter action of a high-speed camera by a group of photography enthusiasts who wished to secure better night basketball pictures for the college yearbook. These boys worked out a method of plotting the shutter opening for more than 100 points during an exposure of one five-hundredth of a second.[3]

The final phase of our course of study emphasizes the responsibility of every student to contribute to the activity of the class. He is invited to make oral reports to the class, to perform demonstrations, to construct models or charts, to suggest additional references or problems. Every effort is made to cause students to feel their own responsibility for the welfare of the class as a social group and to appreciate the many values of coöperative effort.

WHILE the course of study at its present stage has not been in operation for enough time to present acceptable research evidence of its strengths or weaknesses, the interest shown by the students and the outstanding quality of individual projects have encouraged the continuance of the development along the lines already begun.

[3] M. S. Allen, "Student Motivation in the Major Social Functions Procedure," *Education,* 59:179-182, November, 1938.

Study of Teacher Preparation

Two California institutions, Stanford University and the Claremont Colleges, have been invited by the Commission on Teacher Education of the American Council on Education to join with it and thirty-two other colleges and school systems, scattered throughout the country, in a coöperative study of the preparation of teachers and of their continuing education while in service. This study is the first to be set up by the Commission, which was established in 1938 and is operating under grants from the General Education Board totalling more than $500,000. Invitations have been issued to seven teachers colleges, five liberal arts colleges, six universities, two Negro institutions, ten independent school systems, and four groupings of school systems.

The Commission, according to a statement issued by Dr. Karl W. Bigelow, its director, will provide the groups involved with consultant and other services and with opportunities to send representatives to six-weeks' summer workshops where problems of teacher education can be intensively studied and plans for their solution developed. Opportunities will also be provided for staff members to collaborate in the study of child development and teacher personnel at a center to be established by the Commission next fall at the University of Chicago.

Coöperative Planning of a Denver Core Course

By EDITH HENRY
CHANDOS REID
BETTY SPARHAWK
GEORGE WAGNER

THE individual student, one of three thousand in a large city high school, was the spark that set off the adventure of six teachers at East High School, Denver, Colorado, in January, 1938. Since then these six have wandered far, faced many challenging situations together, and now, at the halfway mark, are asking themselves such questions as, "What have been our real contributions?" and "What are the problems which we must face in the next year and a half of our work?"

Before these six teachers began their coöperative enterprise, it had been far too easy for an individual student to spend three years in East High School without seeing the relationship of his several activities to his whole life experience. Most of his subject matter classes had little or no reference to each other. His activities outside of school were a thing apart and were seldom considered in connection with his school life. His parents often had little contact with the school. There had been no one person who knew him well to whom he could come for continuous counsel—no one who would help him set up his purposes, study his problems, and work out solutions for them which would satisfy his needs for personal growth in relation to the group of which he was a part. And so, the core classes were developed to remedy this situation.

STUDIES of the problems of these high school students revealed that many were common to all students and that no one subject then being given was adequate for their solution. Student experiences were very complex, and the problems arising from them needed attention from many fields. Since many of these problems related closely to community activities, it seemed necessary, also, to get out of the classroom and make first-hand contacts with people and places in the community. These facts, with others, suggested that more than one period a day would be needed to carry out the proposed program.

Coöperative teacher planning is so much a part of the core program of East High School that this article would not represent our philosophy if it had not been coöperatively written," say the authors of this out-of-state contribution from Denver, Colorado. "The writers are four teachers who have worked together for the last year and a half in developing this program at East High School. The article speaks of six teachers. Two of our group are on leave of absence."

Miss Edith Henry, this year's chairman of the group, is a specialist in the field of art. She was a member of the workshop staff at Chicago University during the past summer. Miss Reid, English teacher, was a member of the workshop staff at Syracuse University last summer. Miss Sparhawk represents the field of social studies and vocational education. She spent the last summer teaching a demonstration class at Stanford University. Mr. Wagner teaches science and mathematics. During the past summer he was a member of the workshop staff at the Colorado State College of Education.

Six teachers, representing the fields of English, social studies, art, home economics, mathematics, and science, were chosen to carry out the reorganization. They were to work with 240 incoming sophomores, students who had been given an opportunity in the contributing junior high schools to choose whether they should become a part of the core program or continue in traditional classes. The groups were heterogeneous; no type of classification was used in assigning the students to classes. Any student who wished to enter the group was admitted. These six classes were scheduled in one wing of the building for three consecutive periods of the afternoon.[1] During the rest of the day, students took elective classes in which they had special interest or talent or courses which they desired either for personal reasons or for college or vocational preparation.

No predetermined units were set up as constituting the core course; rather, the needs of the group were used to determine the units of work. As a guide, however, these broad areas were considered: Tenth Grade—experiences dealing with personal relationships in school, the home, and the community; Eleventh Grade—problems dealing with larger social, political, and economic relationships, with a consideration of the past as it helps us understand the present; Twelfth Grade—problems and issues of modern life and personal adjustment to them. This year's topic was expected to include vocational study.

THE first job was laying the foundation for really knowing the individual and getting him to know himself and to see all his experiences as a related whole. It was necessary to have him understand that this was to be a coöperative venture and that the teachers, students, and parents would work closely together. He must feel that he had an important share in working out the purposes, planning the activities, and measuring the results of the core.

The first weeks, therefore, were spent in an effort to understand the individual students in the classes and to determine the individual differences among them. Each teacher had personal conferences with her students and their parents on such questions as the major interest of the child, difficulties encountered in the new school, vocational plans, reading taste, hobbies, and problems in personality or social adjustment of which he or his parents might be conscious. Not the least important part of this determining of individual differences came in the class sessions devoted to group conferences and the discussion of common problems. Interest groups were set up in such areas as music, leather work, science, creative writing, drama, public speaking, crafts, metal work, personality problems, and dancing. Teachers outside the program volunteered their assistance in these groups. Membership continued for six weeks; then opportunity was given the students to gain experience in another field.

An extensive testing program was used to help determine significant differences in the children. Some of the tests indicated appreciation of reading, beliefs on social issues, ability to apply principles of social action, ability to interpret data, and ability to find and use materials. Special skills in English usage and practices in individual study also were tested. This testing program was used as one basis for remedial work and served as a guide for the selection of core units and elective courses. Drills for the improvement of reading and the correct use of English skills were provided to fit the needs of the individual and the group. Suggestions for pleasure reading were also given to individual

[1] After the first year, however, this time was diminished in order to allow adequate time for electives in advanced courses outside the core.

students during conferences which took place in a period set aside especially for free reading.

THE first unit of study was selected by the teachers for purposes of exploration and orientation. A unit on changing beliefs and influences on thinking was selected because it gave opportunity for academic work, radio study, propaganda analysis, and art experience. Within each group, as the unit was developed, the teacher and class set up their own objectives, analyzed their problems, set up activities with which to achieve their objectives, and planned ways to measure their results. This was their first experience in pupil-teacher planning. Once each week representatives from each group met with the teachers to exchange experiences, discuss common problems, and plan activities for the entire core.

During this unit, students were led to see that experiences are made up of many elements and that information comes through many avenues. Groups were shifted so that the students spent about two weeks with each teacher. The English teacher discussed with them the influence of reading in formulating opinion; the art teacher helped them see how pictures influence thinking; the home economics teacher showed them how homes influence beliefs and ideas; the social studies teacher presented the place of tradition and custom; and the science teacher helped them analyze their sources of information and introduced the use of the scientific method in thinking.

For many of the units which followed it did not seem necessary for all classes to meet with all teachers. The nature of the problem and the needs of the group determined the procedure. Each group, with its counseling teacher, worked out its own objectives. Then representatives of the group met with representatives of the other groups in the core council which included both teachers and students. Suggestions were brought to the group, ideas were pooled, discussed, and often taken back to the core classes to be rediscussed. This council set up laboratory periods to enable each student or class to work with those teachers who could best assist in the development of the unit. The teachers themselves planned closely together in an effort to find the implications of all fields for the unit.

The English laboratory assisted students in selecting fiction related to the problem, in writing material for presentation, and in preparing oral work. The social studies laboratory was used to get historical background and help in understanding social issues. The science laboratory helped students interpret the science implications in their study and promoted some experimentation. The home economics laboratory aided in understanding problems in family relationships. The art laboratory gave opportunity for creative expression and showed how the art expression of a country could be used as a means for understanding it.

During this period students were free to go to the library or into the community for interviews or field trips. Individual research and group projects were used as the need arose. In presenting the information gained in the study of a topic, students found that there were many avenues of expression open to them. Some of these were more suitable than others. The student was led to discover which medium was best for him and for his idea. Those which have been used by the students include *oral* media: songs, music of various types, speeches, panels, forums, conversations, and plays; *written* media: reports, stories, poems, plays; *visual* media: models, photographs, cartoons, maps, charts, diagrams, illustrations,

demonstrations of experiments, and original motion pictures which combine all three forms. Evaluation instruments were developed by students and teachers to measure growth and report that growth to parents.

Parents of the core have had their share in the plan, too. Each group was represented by a father and mother, who, with the core teachers, made up a planning council which met once a month to consider problems and make plans. Not only have suggestions as to content been given in this group, but also school and community relationships have been strengthened, and parent meetings for all parents in the core have been planned.

EVALUATION is an integral part of any program which attempts to determine its direction in terms of the growth of the students themselves. In our program each student keeps a cumulative record of his own progress for the three-year course. The record includes formal and informal educational experiences, a graph of placement in standardized examinations, and a record of, and comment upon, motion pictures and radio programs. A very valuable record of all magazine articles and books read by the student is also included. The book record includes the type, maturity level, and student's rating of the book and also a brief review of the book. Each semester a summary of the reading done for the past semester is made and evaluated in individual conferences.

Perhaps the greatest value in these cumulative records is to be found in the comments which the students make about themselves. Twice a semester the student stops to measure his own growth and take a new view of his problems in terms of the objectives which he has stated. The teacher adds comments. The record book is then taken to the parents, who give their suggestions concerning the student. This continuous record of progress is invaluable.

Short evaluation exercises prepared by the core council or by the staff are also included in the record.

THE close contact between teachers and students has been one of the greatest contributions of the core program. Each student knows one teacher with whom he has continuous contact for three years, a teacher who helps him plan his entire program, find school activities suited to his talents, correct problems in his social adjustment, and grow in the skills and abilities essential to his success. Thus his entire school experience is brought into focus. The success of the program is evident in the wide activity and leadership of these students in the larger school program. The advantages have been so pronounced that continuous counseling is now provided for all students who enter the school.

The staff feels that working together, exchanging ideas, rethinking units of work from the point of view, not of one subject, but of six, has contributed greatly to the growth of the individual teacher and his ideas.

There is still much to learn. The mechanics of managing six groups in order to give them the full advantage of contact with the staff members offers a problem. The innumerable details of teaching routine still threaten at times to obscure the real purposes of the core. The members of the staff, however, see much evidence that in spite of these difficulties the students are carrying into other classes and into their daily living the skills, the social competence, the initiative, responsibility, and self-direction developed in the core classes. If the core can achieve these results, it has justified its existence.

The Counselors' Meeting: A Clearing House

By SARELLEN M. WUEST

THE time is Thursday, 2 p. m. The place is the principal's office, Horace Mann Junior High School. Those present are the principal, the vice-principal, the dean, the seventh, eighth, and ninth grade counselors, the "prep" teacher (in charge of the substandard student group), and the school secretary with her shorthand notebook and a sharp pencil.

This is the foreground.

Back of this group lies a student body of more than eleven hundred and a faculty of forty aligned in conventional departmental pattern.

The Thursday counselors' meeting is Principal George H. Robison's device for a weekly pulling together of the tangents that develop in the organization, for making himself available for all kinds of questions, for getting reactions and suggestions in determining policy, and last, though most important, for creating a time and a place where the case of *one child* who is in trouble of whatever sort can be discussed, considered, and adjusted.

The meeting is conducted along ordinary parliamentary lines with the principal as chairman. There is general discussion of all problems, and a summarized record of each meeting is included in the minutes, copies of which are filed with each member after being transcribed.

Each counselor is called on in turn to report her most difficult cases. Names are the keynote of the meeting. The vice-principal reports his parent conferences and home calls and the latest information from the "downtown" placement council. The dean brings to light the former school history, health, little weaknesses, and ambitions. The "prep" teacher reports the Binet Test score and recommendations. The counselor brings the latest reports on scholarship and citizenship from the five or six class teachers now supervising the child's day and describes the child's own attitude toward his troubles. And in the end some kind of help is planned for the child.

Many subjects for discussion are of a trivial or general nature such as: Shall the new "How to Study" books be kept as a set for class use or split up as forty teacher's desk copies? How shall we forestall the general student exodus which took place last year on Navy Day, now again approaching? Why is there such a gap in the arithmetic ability as shown by standard tests and the evidence of midsemester grades? Are little seven B girls frightened by a program of nearly all men teachers?

But whether general or specific, trivial or significant, concerned with one child or hundreds, the weekly counselors' meeting is the best device as a school clearing house and round table that we have so far hit upon.

Miss Wuest says that it seemed worth-while to write this article "because, just as we fumbled around for some method of unifying our work, others might get a useful hint or two from our plan." Miss Wuest teaches English and acts as one of the counselors in the Horace Mann Junior High School, San Diego. She has taught in the schools of San Diego since 1924.

Current Research in the Field of Secondary Education

Reviewed by WILLIAM A. SMITH

The Function Concept in First Year Algebra, by Helen O'Dea. Unpublished Seminar Study, University of California, 1938.

A Study of the Causes of Errors in First Year Algebra, by Lester R. Smith. Unpublished Seminar Study, University of California, 1936.

A DECADE ago one of America's foremost mathematicians remarked to the writer: "What China needs most is mathematics." Momentarily, the statement seemed a gross exaggeration, but its pertinence soon became apparent. What China (and the whole world for that matter) needs most is scientific control of natural and social forces, and the language of science is dominantly the language of mathematics. Lancelot Hogben in *The Retreat From Reason*[1] maintains as cogently that as the Reformation democratized reading, so we need now rationally, in the interests of a sane and constructive social order, to democratize the art of calculation. These attitudes stand in striking contrast to those of some of our would-be-educators who propose the virtual elimination of mathematics from the secondary school curriculum.

The investigators whose studies are reviewed below are mature teachers who sense the potential value of mathematics and are anxious to improve the quality of its teaching. Their contributions, however limited and fragmentary, are to be genuinely commended.

[1] Watts and Co., London, 1938.

MISS O'DEA traces in some detail the rise of the function concept in mathematics and shows that the recognition and use of it have passed through at least four stages: (1) that in which the function was represented by the ordinate of a curve, (2) that in which it was given general formula significance, (3) that in which it was represented by the geometric graph of the formula, and (4) that in which its essence came to be correspondence between two variables.

As an organizing principle, it appears first to have been proposed by Felix Klein at the International Congress of Mathematicians in Chicago in 1893. Subsequently, it was clarified and elaborated by such outstanding leaders as E. H. Moore and E. R. Hedrick. By 1923 the National Committee on Mathematical Requirements strongly urged the use of the function concept as the unifying principle in secondary school mathematics.

Miss O'Dea's chief contribution involves a commendably thorough attempt to determine in an objective manner the influence of the function concept upon the teaching of first-year algebra as reflected in representative textbooks. As a first step, she identified the topics in which functional relationships are most evident, namely, equations, verbal problems, formulas, graphs, tables, evaluation of polynomials, variations, ratio and proportion, and trigonometric functions. Thereupon, she drew up criteria which made

it possible to determine in an objective manner whether the treatment of these topics was formal or functional.

In contrast with other investigators in this field, who have confined themselves almost entirely to current textbooks, Miss O'Dea analyzed thirty-two representative texts published concurrently with the rise of the function concept, thus throwing into bolder relief the influence of the concept.

In brief the findings show that: (1) textbook writers who express the intention of stressing the function concept do not surpass others in practice; (2) the functional treatment of the "equation" and "verbal problems" remains negligible; (3) the "formula" and the "table" (not a topic in first-year algebra until about 1915), formerly placed late in the texts, now appear early and are accorded functional treatment by many textbook writers; (4) the "graph" (not a topic in first-year algebra until about 1900), treated as an expression of functional relationship from the beginning, but treated only once in each textbook before 1925, now recurs frequently and generally receives functional treatment; (5) in the most recent textbooks there is in evidence a slight tendency to treat the "polynomial" as a function; (6) the relational character of "ratio and proportion" is slightly touched upon only when treated directly with "variation"; (7) the treatment of "variation," consistently formal up to 1925, is becoming definitely functional; and (8) "trigonometric functions" (not a topic in first-year algebra until about 1925) continues as one of the last topics in current textbooks and rarely receives functional treatment.

Miss O'Dea concludes that the function concept as a unifying principle in secondary school mathematics has had a wholesome influence upon the teaching of first-year algebra, but not to the extent that it should.

THROUGH a careful survey of investigations in the field of first-year algebra, Smith found that the commonly recurring errors made by pupils in that subject had been rather extensively identified and tabulated, but that practically no effort had meen made to determine the causes of such errors. Further inquiry showed that the list of errors compiled by Rugg and Clark[2] was so complete that it included practically all the errors listed by other investigators. Accordingly, with this list as a basis, he proceeded to determine, by means of an adaptation of the procedure elaborated by Buswell[3] in his diagnostic studies in arithmetic, the causes of such of these errors as occurred among his subjects—a class of forty college preparatory pupils in first-year algebra. Incidentally, all recurring errors made by this group were errors listed by Rugg and Clark.

Limitations of space preclude a detailed statement of recurring errors together with their specific causes as revealed by the findings. In general, the causes of the errors in question may be subsummed under three categories which most teachers of mathematics will readily recognize, namely, (1) admitted carelessness on the part of pupils; (2) inadequate command of fundamental operations and processes, including reading; and (3) an inadequate grasp of specific terms and type expressions.

Smith concludes that the procedure employed, although time-consuming, is admirably adapted for the identification of the causes of practically all recurring errors in algebra and that a relatively complete inventory of them would pave the way for large-scale improvements in the teaching of the subject.

[2] H. O. Rugg and J. R. Clark, *Scientific Method in the Reconstruction of Ninth Grade Mathematics*, University of Chicago Press, 1918.

[3] G. T. Buswell, *Diagnostic Studies in Arithmetic*, University of Chicago Press, 1926.

What's Happening in California Secondary Schools

Edited by AUBREY A. DOUGLASS

A Class in Forestry and Conservation at Santa Cruz. — At the Santa Cruz High School a course in forestry and conservation has been developed by Robert E. Burton. The purposes are to introduce high school boys to our great out-of-doors, to create an interest and love for natural resources, and to foster worth-while hobbies. The course is particularly appropriate in this school, for over 80 per cent of Santa Cruz County is forest land, much of which has been logged over. This latter territory was at one time considered useless, but of late second growth has made it a natural playground for hosts of people, and now there are thousands of fine homes and cabins scattered among the trees.

Geometry is used in this course in forestry to explain and illustrate how land is measured and subdivided. By means of Forest Service compasses and Abney levels, a piece of ground of several acres, rough and steep, must be outlined to scale, and its acreage computed. Volumes of trees are computed and solid geometry is thus illustrated and used. Angles, both horizontal and vertical, are measured with simple instruments to illustrate how elevations are found. The making and the use of contour maps is explained.

History plays a part in all this, because the old land grants mingle with the United States land surveys, and the old sawmills remind one of local history. On numerous field trips, trees, shrubs, and grasses are studied as well as soil and geology. Determining the specific gravity of woods and their strength gives a practical review of physical laws.

There is always wealth of material at hand for collections. Each student is required to make a collection of ten native wood panels. He mounts and carefully labels all parts of at least one native tree, and he keeps a neat notebook on laboratory and field observations. No textbook is used, and the equipment bought so far did not cost $100.

* * *

Democratic Administrative Procedure at Chino.—Firmly believing that "in a multitude of counselors there is wisdom," District Superintendent Leonard F. Collins of Chino meets with his four administrative officers one morning each week to discuss and seek solutions to all problems which confront the faculty and student body of the high school.

To the weekly conferences the dean of the faculty brings his problems of curriculum adjustment; the vice-principal, his "problem child" studies and athletic league schedule consultations; the dean of girls, the program arranged for the cultural development of the individual girl and the group; and the dean of boys, similar problems related to boys and problems of incomplete work.

Out of these conferences come some excellent ideas for the improvement of the student and the school. Already this

year a revised schedule has emerged, a unified school fire drill report has been developed, and a course of study outline has been produced.

From time to time members of a specific department meet with the administrative group to discuss their problems and to seek revision in teacher schedules or class hours which will improve the department. Minor, yet important details such as current event magazine schedules are simplified and made workable by the adjustment of orders and distribution when at such conferences the need is made apparent to the administration.

Problems which the individual teacher frequently hesitates to bring before the principal or superintendent, or situations where the coöperation of the girls' and boys' counselors is of prime importance, are brought to light without delay when members of the administrative conference present the problems which they have noted or upon which other members of the faculty have requested assistance. This coöperative thinking and planning makes it possible to conduct the school academic and extracurricular program both wisely and well, to the best advantage of the students and faculty, without personal disturbances or unnecessary impairment of program.

* * *

Orientation Course at Laguna Beach Junior-Senior High School.—A one-period orientation course has been developed in grades seven and eight of the Laguna Beach Junior-Senior High School, writes Lawrence Barfell, a member of the faculty. To supplement the regular academic courses, units from eleven subject fields were selected and grouped into related areas. The related areas are traffic safety, health, and first aid; parliamentary procedure; business practices; drama; fine arts; music; home economics; wood shop; and science. Except in wood shop and home economics where classification is by sex, classes are sectioned according to ability.

Mr. Barfell believes that, as a result of their participation in dramatic activities, pupils gain in ability to take criticism and that, as a result of practice in parliamentary procedure, pupils gain in ability to express themselves orally and to carry on group activities. Home economics leads in interest for boys, while shop activities are of most interest to many girls.

* * *

El Segundo Ninth Grade Girl Describes Orientation Project.—Phyllis Crumley, a ninth-grade pupil in the El Segundo High School, has written the following account of a class project in making a motion picture. The account first appeared in a mimeographed bulletin entitled "What Our Schools Are Doing," compiled by J. Holmes Ford of the Office of the County Superintendent of Schools, Los Angeles.

Our three freshman orientation classes were studying vocations and we wanted to work out an interesting project. There were many suggestions, but the one that was chosen was to make a moving picture about various vocations and call it "Do You Want a Job?" Our teacher happened to have a movie camera so we wanted to start right away, but we needed several committees before we actually could begin to shoot. There were the script, directing, photography, technical, and narrative committees.

Early in February all was ready and everyone was anxious to get started. We took pictures of activities in our school, such as shop, orchestra, dietetics, interviewing our principal. We also have our Standard Oil plant, the municipal airport, our local newspaper office, University of Southern California, and several other interesting shots. The teachers and townspeople were very courteous about letting us take our pictures. We had our joys and our sorrows while making our movie because there were a few pictures that had to be retaken, but we were never discouraged.

The filming was finally finished, splicing done, and all the shots in order by the second week in March. On March 16 our movie had its première at our P.-T. A. program. A freshman announcer and two narrators had been chosen to read our narrative over the microphone as the picture was shown. It was lots of fun to see ourselves flashed on the screen, and the parents, and even the upper classmen, seemed to enjoy it. We "scrubs" don't like to brag, but, all in all, it was very good and we say that next year's freshmen will have to work hard to beat our record in the study of vocations.

* * *

Western Personnel Service Reopens Training Course.—The annual training course offered by the Western Personnel Service at its headquarters in Pasadena reopened in September. Three trainees have been chosen this year from a large group of graduates nominated by the eighteen member colleges and universities on the Pacific Coast. The trainees this year are Gertrude Lurie, A. B. in Psychology, University of California at Los Angeles; Elisabeth Stetson, B. S. in Psychology, University of Oregon; and Leonard Schulman, A. B. in English and a general secondary credential, University of California.

Western Personnel Service, as a nonprofit coöperative association of western colleges and universities, maintains a clearing house of information useful to college personnel workers. Through its bulletins and counseling services, it reports on developments in methods of student personnel work and on occupational information significant for college students. The training program thus includes study and practice in many phases of personnel work.

The program will be under the direct supervision of the staff directors of the Western Personnel Service, Miss Winifred M. Hausam and Miss Helen G. Fisk. Dr. Karl Cowdery, associate registrar of Stanford University, is chairman of the Academic Council.

Graduates of a similar training course, given for the first time last year, have all gone on for further related work or study. Betty Vaughan, Stanford 1938, has entered industrial personnel work and is this year with the Pacific Telephone and Telegraph Company in San Francisco. Constance Barnett, who came to Western Personnel Service from the University of California at Los Angeles, has gone to Berkeley for further study at the University. Louise Bell, Pomona 1938, is combining her interest in personnel work and teaching this year under a fellowship in nursery school work in the Graduate School of Child Research of Whittier College. Phyllis Boothe, who participated in the training program as a part-time volunteer, is carrying on volunteer services this year with the Junior League in Los Angeles.

Ronald M. Ketcham has been added to the staff of the Western Personnel Service as assistant in charge of occupational research and publications.

* * *

Program of the County Curriculum Coördinators.—For a number of years county superintendents have been able to supply supervisors to the elementary schools. This service brings direct assistance in planning courses of study and in developing units of instruction to teachers who would otherwise be without help. The total result of the activities of the county elementary supervisors, who have maintained close touch with the Division of Elementary Education of the State Department of Education, has been and is of highest value.

Until recently funds have not been available to provide persons to render comparable service to the high schools, and in only one or two instances has it been possible to make the problems of the high school the immediate concern of a member of the county staff. In

1937, however, legislation was enacted which permits the county superintendent, "with the approval of the county board of education, [to] provide for the preparation and coördination of courses of study for the high school or high schools of any district in his jurisdiction." In 1939 the law was changed to read: "to provide for the coördination of courses of study, and for conducting and coördinating research and guidance activities."

More than half of the county superintendents of the state have set aside funds for these services. In thirteen counties "curriculum coördinators" have been employed, and in several other counties the superintendents expect to take the same action when the time seems propitious.

During the school year of 1937-38 informal conferences were held by the "curriculum coördinators" and representatives of the offices of other interested county superintendents. At the conference of the California School Supervisors' Association, held October 1-4 in San Jose, two section meetings were devoted to a description and explanation of the manner in which the work has been begun and organized. From these discussions certain attitudes and trends are evident.

In the first place, the county superintendents have had no disposition whatever to force a program upon the high schools. They believe that assistance is best given in curricular or administrative problems when those problems are keenly felt by teachers and administrators and when confidence is placed in the ability of the person or persons who are to render the assistance. They have realized—and in some instances they have been flatly told—that not all high schools are ready for or desirous of help from the county office. The policy, therefore, has been one of supplying assistance, when requested by the principals, to teachers, to groups interested in studying curriculum problems, and to administrators. Often committees have been set up to express the attitude of the principals and to indicate the type or types of service desired.

Although committees have been appointed and conferences held on problems affecting several or all of the schools of the county, county-wide programs have not been adopted. As one curriculum coördinator expressed it: "When I go into a high school, I consider that I am in the employ of that high school and under the direction of the administrative officers of that high school."

Activities are many and varied. In Los Angeles County, where Assistant Superintendent C. C. Trillingham has been coöperating with the high schools for some time, numerous self-directive committees have been originated and many bulletins have been published, dealing with a wide array of subjects and problems. These bulletins have been exceedingly helpful, not only to teachers and administrators in Los Angeles County, but also to those in other areas. Another aspect of the Los Angeles County program has been the attention given to teachers' institutes. Problems of interest and concern have been placed in section meetings which have been planned by the teachers themselves. Dr. Trillingham is of the opinion that one of the most helpful aspects of the entire program is found in those activities which promote acquaintance and consideration of mutual problems on the part of teachers in elementary and in high schools.

In Ventura County a number of committees have been set up, dealing with courses and problems of instruction in the several fields. Mental health and guidance, parent-school relations, and visual aids to learning are also repre-

sented by appropriate groups. Institute sessions are planned in such a manner as to bear directly on the problems raised by the committees. The teachers elect their own officers and plan their own work, including the organization of certain of the institute sessions. M. E. Mushlitz, director of the secondary curriculum, states that an important aspect of the program is in resolving the wide separation which has existed between elementary and secondary schools. An educational council has been organized to give general direction to the program in Ventura County.

In Santa Clara County, where O. S. Hubbard is director of secondary curriculum, the first step was a meeting of the principals. The problems proposed by this group were discussed and an organization effected for an attack. The chief issue seemed to be courses and instruction in English. The teachers themselves proposed a number of problems they wished to investigate. These included literature, free reading, remedial reading, creative writing, composition, speech, grammar, spelling, motion picture appreciation, drama, radio, college entrance, textbooks, and attitudes of students toward English usage. The plan of study is comprehensive and exceedingly well drawn.

San Bernardino County offers difficulties because of the enormous area it contains and the consequent amount of travel demanded. G. A. Daniels, director of secondary curriculum, has, however, succeeded in spending considerable time in each of the high schools. The teachers have asked him to keep them informed on curriculum developments and to meet with them when they consider questions dealing with courses or curriculums. The policy has been to provide speakers from groups of teachers. Two services have been asked in San Bernardino County which so far have not appeared elsewhere. One of these is attendance by the director of Secondary Curriculum upon faculty meetings; the other is assistance in evaluating textbooks.

In Alameda County certain administrative problems have confronted the office of the county superintendent. One of these was retardation and acceleration, of which an intensive study was made with a view to planning a more nearly uniform program of promotion. It also seemed advisable to effect a coordination of the testing program so that data reaching the high schools from the elementary schools might be more effectively used. Other questions which received attention were improvement in ability in reading, visual education, and classroom instruction. Irving R. Melbo, director of curriculum in 1938-39 and at present serving in advisory capacity, states that the program was begun with the concept of service and that a county educational council which discovered avenues of action through committees of teachers has been exceedingly helpful. Mrs. Ethel S. Ward has since September 1 assumed the duties formerly performed by Dr. Melbo.

In Contra Costa County two important services have been to make available to high school teachers essential information about entering pupils and to interpret and to help individual schools see the county-wide educational picture. The coördinator of secondary education, Stanley Warburton, prepared brief summarized data about the pupils enrolling with each high school teacher and shortly after the opening of the present school term arranged for meetings between the high school faculties and the teachers from the elementary schools concerned. Meetings were also held to acquaint secondary teachers with the spread in abilities represented by the pupil groups in their classes. A county-wide program of testing eighth and ninth grade students for achieve-

ment and intelligence, maintained last year, will be repeated. Cumulative records have been installed, and thus each year teachers have more complete information about entering pupils. Every effort is made to get this material into the hands of the classroom teachers.

In Fresno County teacher groups in English and social studies meet quarterly through the school year to discuss mutual problems.

A county safety committee also has been working on an inclusive program of education in safety. Teachers have discussed ways and means of making faculty meetings more valuable. This year all new teachers in the county are being visited by Louis P. Linn, assistant superintendent of schools; the science teachers are being organized; and reading tests are being administered to all pupils in the ninth grade.

The teachers of Santa Barbara County set up their program of secondary education by listing significant problems of boys and girls in grades nine to twelve. Last year a core curriculum committee developed a source unit on water which this year will be utilized in each school, through the interest of its committee member. A novel feature of that county's coördination work is to have all eighth grade teachers visit the high schools which their pupils enter, so that they may become acquainted with the problems and viewpoints of the secondary groups. Last spring the high school teachers visited the elementary schools to learn at first hand the characteristics of their prospective entrants. According to Miss Lelia A. Taggart, director of rural education, the group of high school principals will visit demonstration classes on five separate days during the current term for a morning of observation to be followed in the afternoon by discussions between administrators and the classroom teachers.

A basic premise for the program of coördination of secondary curricula in Riverside County, says Hollis P. Allen, curriculum adviser, is that high school principals and teachers are intelligent and very busy. The county office, therefore, has attempted to present facts and rely upon principals and faculties to discover solutions to problems. Last year the high schools examined their offerings, arrived at certain minimal considerations, and supplemented their conclusions with reading tests to obtain more correct understanding of their students.

The supervisor of coördinating activities for Tulare County, Rodgers L. Moore, has aided high schools to sort entering pupils into ability groups from the records of the eighth grade graduates. Teacher groups in eleven subject fields have been organized.

New coördinators of curriculum are Don Harrison, Sonoma County, John Eckhardt, Kern County, and Linton T. Simmons, Orange County. These appointments have been too recently made to permit a statement of work carried on in these counties.

As pointed out above, elementary schools under the jurisdiction of the office of the county superintendent have for a period of years had the benefit of a strong supervisory program. City school systems provide similar service. In the cities, also, provision has been made through curriculum divisions for consideration of the problems of the secondary schools. Secondary schools not contained in city systems have been without special service. The new legislation, plus the activity of the county superintendents and the coöperation of high school administrators and teachers, will, without question, tend to remedy the situation. As a matter of fact, this new movement is one of the most promising in California secondary education.

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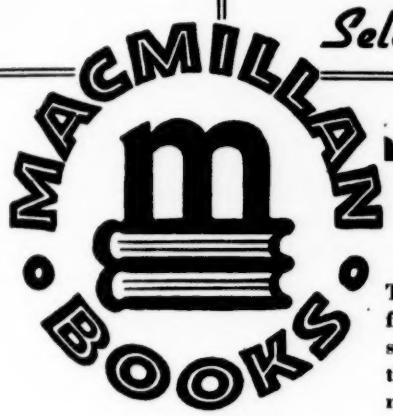

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Federal Activities in Education. Educational Policies Commission, National Education Association and the American Association of School Administrators, Washington, D. C., 1939; 151 pages.

The Good Neighbors, by Delia Goetz and Varian Fry. No. 17 of the Headline Books, The Foreign Policy Association, Silver Burdett Company, 1939; 96 pages.

A Handbook for Teachers, by Joseph S. Butterweck and George A. Muzzey. E. P. Dutton and Co., Inc., 1939. Price, $2.25; 218 pages.

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